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Mineral Investigations on Chichagof and Baranof Islands, and Vicinity, Southeast Alaska, 1996

Peter E. Bittenbender and Jan C. Still

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Cover Photo

BLM employee inspecting mineralization discovered during reconnaissance sampling in Patterson Bay, southeast Baranof Island, Alaska.

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Abstract

Mineral investigations on Chichagof and Baranof Islands in 1996 represent the second year of a mineral assessment study initiated by the former U. S. Bureau of Mines in 1995. BLM personnel examined the geology along roads near Hoonah, Tenakee Springs, Corner Bay, and Sitkoh Bay. Prospects were mapped and sampled in the Silver Bay area southeast of Sitka. Several sites were revisited following up work accomplished in 1995 at Sea Lion Cove, Halleck Island, the Hill prospect, and Patterson Bay. Copper mineralization was examined in the Mt. Muravief area.

Copper mineralization in massive sulfides pods, felsic schists, and volcanic breccia was discovered in the Mt. Muravief area. The mineralization is associated with greenstone lenses hosted within slate, phyllite, and graywacke of the Jurassic to Cretaceous Sitka Graywacke. The predominant sulfide is pyrrhotite, but chalcopyrite, bornite, and native copper are also present. Samples to date indicate copper grades to 1.6 % over 18 feet, and up to 6.3 % in high grade samples. Low gold and silver values accompany the copper. The mineralization is significant because it is unique on southern Baranof Island and there remains the potential for additional discoveries in the area.

Minor skarn type mineralization was discovered north of Freshwater Bay. This discovery widens the extent of the known skarn mineralization related to a Cretaceous intrusion into carbonate rocks of the Iyoukeen Formation.

Field work in the Silver Bay area clarified the location and condition of historic prospects reported in mining-related literature. Investigations to date indicate that precious metal mineralization in quartz veins is spotty and that the veins are of limited continuity.

TABLE OF ABBREVIATIONS

BLM	United States Department of the Interior, Bureau of Land Management
FS	United States Department of Agriculture, Forest Service
no(s).	number(s)
PGE	platinum-group element(s)
ppb	parts per billion
ppm	parts per million
REE	rare-earth element(s)
USGS	United States Geological Survey
°	degrees of azimuth
%	percent

INTRODUCTION

A two-year investigation of the Chichagof-Baranof Islands area was initiated by the U. S. Bureau of Mines in 1995. With the closure of the Bureau of Mines in early 1996, responsibility for the investigation was taken over by the Bureau of Land Management (BLM). Study of the area was undertaken at the request of the USDA, Forest Service (FS) with the intent of conducting a mineral assessment of the area. A mineral assessment includes surveying, mapping, and sampling historic mines, prospects, and occurrences as well as reconnaissance investigations of prospective mineralized areas. The main objective is to determine the type, amount, and distribution of mineral deposits, which assists in evaluating the area's mineral development potential.

BLM personnel released a report on the first year of work completed in the Chichagof-Baranof area in 1996 (Maas and others, 1996). The report includes much introductory material (e.g., land status, previous studies, mining history, and production, general geology, bibliography, etc.) that is not repeated in this report. Interested readers are referred to "Mineral Investigations on Baranof and Chichagof Islands, and Vicinity, Southeast Alaska, 1995" by Maas, Bittenbender, and Still.

This report provides information gathered during field investigations in the Chichagof-Baranof area during 1996. Areas examined include those accessible from the Hoonah road system; the area surrounding Sitka, including the Silver Bay area; and reconnaissance investigations on southern Baranof Island. Brief descriptions of BLM work in these areas is provided along with analytical results from samples collected and a map showing sample locations.

Additional work in the Mt. Muravief area on southern Baranof Island is scheduled for 1997. Results of the 1997 field work will be included in a third and final report on the Chichagof-Baranof area. The final report will summarize the work accomplished by the BLM and Bureau of Mines in the Chichagof-Baranof area and will include reference to the historic West Chichagof area. The final report is scheduled for release in early 1998.

Location and Access

The 1996 study area was confined to Chichagof and Baranof Islands, and adjacent small islands to the west (Fig. 1). These islands form the northern part of the Alexander Archipelago in Southeast Alaska. Sitka is the largest community in the study area and is located about 90 miles southwest of Juneau.

Sitka is the major transportation hub in the area. It is served by commercial jet and the state ferry system. Access to outlying areas can be made by boat, float plane, or helicopter. A limited road system around Sitka allows access to parts of the Silver Bay area. The extensive road system in the Hoonah area was constructed for the timber industry. BLM personnel used all-terrain-vehicles to access mineral occurrences on the road system.

Figure 1. - Location map of the Chichagof-Baranof Islands study area.

ACKNOWLEDGMENTS

The authors wish to thank Kenneth Maas, a geologist with the BLM in Juneau, for his investigation and sampling of mineralization along the road networks in the Hoonah area. The authors would like to thank FS personnel in Hoonah who provided boat transportation on several occasions. Thanks is also extended to the FS in Sitka for use of vehicles on remote road systems in the area. Helicopter service was provided by Coastal Helicopters of Juneau and Mountain Aviation of Sitka. The authors thank Jerry Kouzes, of the BLM office in Anchorage, Alaska, who created the figures for this report.

BUREAU INVESTIGATIONS

BLM investigators concentrated on three areas of the Chichagof-Baranof area in 1996: the Hoonah road system; the Sitka area; and southern Baranof Island, near Mount Muravief. The results of these efforts are discussed in the following sections. Two BLM personnel spent 19 days surveying, mapping, and sampling about 24 different mines, prospects, or occurrences. A total of 195 samples were collected including rock chip, reconnaissance rock chip, and stream sediment samples.

Hoonah Road System

A reconnaissance investigation for mineral occurrences was made along the Hoonah road system for ten days in June, 1996. Road cuts and rock pits were inspected, particularly in areas of favorable geology. Several different road networks in the area were examined including those at Corner Bay, Sitkoh Bay, Salt Lake Bay, Seal Creek, the Indian River near Tenakee, and the Game Creek, Spasski Creek, and Seagull Creek areas south and east of Hoonah. The road system northwest of Port Frederick (the Westport area) was also examined.

There are only a few prospects and occurrences in the Hoonah area, on the northeast side of Chichagof Island. These are concentrated on the east side of the island, near Gypsum Creek and near East Point, on the north side of the mouth of Tenakee Inlet. (Seven days of work in 1995 concentrated on the known occurrences and prospects in the area; see Maas and others, 1996.) The northeast side of Chichagof Island, northeast of Peril Strait and Lisianski Inlet is underlain by rocks assigned to the Alexander terrane (Berg and others, 1978). These rocks consist of Paleozoic sedimentary, intrusive, and volcanic rocks (Loney and others, 1975).

Only minor amounts of mineralization were discovered along the Hoonah road system. In the Westport area, a sample of brecciated, altered argillite of the Point Augusta Formation (Loney and others, 1975) contained 2,930 ppm copper (map no. 1, sample 1242) and a quartz-bearing dike had 1,715 ppm copper (map no. 9, sample 1243). (Map numbers in parentheses refer to Figure 2 and

Table B-1 in Appendix B. Sample numbers refer to Table B-1.) The mineralization was not extensive in either of these occurrences. Several samples of limestone were collected near Flynn Cove, in the Westport area (map nos. 3-7, samples LS4-LS9). Calcium carbonate totals ranged from about 82% to 93%. These totals are not sufficient to encourage development as a carbonate resource. Analytical results from the carbonate samples are presented in Table B-2 in Appendix B.

Skarn mineralization hosting a small amount of copper was found along the Seal Creek road network north of Freshwater Bay (map no. 44). The mineralization is exposed in a 15- by 30-foot road cut. The skarn consists of garnet, epidote, and diopside and contains pyrite, pyrrhotite, and chalcopyrite. The mineralization is found along the contact between limestone of the Iyoukeen Formation and an intrusion of hornblende-biotite adamellite (Loney and others, 1975). A sample of the skarn contained 2,030 ppm copper (map no. 44, sample 1221). Two other skarn occurrences were found along the Seal Creek roads, but they contained little to no sulfides (map nos. 40, 45). The mineralization here is very limited, but BLM personnel found similar sulfide-bearing skarn mineralization along the same intrusive-carbonate contact in the Gypsum Creek area and on the ridge crest between Gypsum Creek and Freshwater Bay, 1.5 to 5.5 miles to the southeast. The skarn at both of these sites contains only minor copper mineralization and appears to be of limited extent. A further description of the Gypsum Creek skarn mineralization and sample results can be found in Maas and others, 1996.

Twenty-one samples were collected of a pegmatite dike in the Salt Lake Bay area and of syenites and other alkalic intrusives in the Kook Lake-Sitkoh Bay area. The samples were analyzed for their rare-earth element (REE) potential. Results indicate economically insignificant REE concentrations. Analytical results are presented in Appendix B, Table B-3.

Sitka Area

Several prospects and occurrences were examined in the Sitka area by BLM personnel in 1996. Gold-bearing quartz veins were examined at Sealion Cove (map no. 73), Halleck Island (map no. 74), the Thetis prospect northeast of Sitka (map no. 75) and at several prospects at the head of Silver Bay (map nos. 76-80). The potential for chrome, copper, and platinum-group elements (PGE) in a magmatic segregation-type deposit was examined at the Hill prospect (map nos. 81-82). Although a few samples indicate relatively high metal values, no specific exploration targets were identified.

Sealion Cove (map no. 73)

Narrow quartz veins are exposed in the intertidal zone near Sealion Cove, on the northwest end of Kruzof Island. BLM personnel revisited the area following the collection of samples with anomalous gold values in 1995. Quartz veins in the area were originally reported by Loney and others (1963) as containing molybdenite and minor copper. BLM sampling in 1996 revealed very minor copper and molybdenite, but reconfirmed anomalous gold concentrations.

The Sealion Cove quartz veins are narrow, from 0.25 to 0.5 feet in width, are oriented from about 300° to 70°, and have steep dips. They commonly pinch and swell, and anastomose along strike. The veins are exposed for up to 100 feet along strike. They are covered below tidewater in one direction and by vegetation in the other. The quartz veins are exposed for about 200 feet along the shoreline. The veins are hosted by hornfelsed graywacke and generally crosscut felsic dikes that intrude the area. Bedding in the graywacke is oriented about 310°. A brecciated zone in the hosting hornfels includes graywacke clasts and quartz stringers. The zone contains minor pyrrhotite that locally comprises up to 1% to 2% of the rock. There is no obvious structural control to the veining in the area. Small northerly trending faults, with offsets of one to two feet, cut the veins in some places.

The quartz veins contain minor amounts of sulfides including pyrrhotite, arsenopyrite, and chalcopyrite. Vein samples revealed gold values up to 1,810 ppb (sample 1461). One sample of the graywacke hornfels adjacent to the vein contained 2,360 ppb gold and 6,900 ppm arsenic (sample 1460). Higher gold values were generally associated with the higher arsenic values. Samples of the brecciated zone in the hornfels contained very low precious metal values (samples 1462, 1463).

Halleck Island (map no. 74)

BLM personnel revisited the Halleck Island prospect to see if extensions of the shear-hosted gold quartz mineralization could be traced further inland, away from the workings near tidewater. Dense vegetation conceals most of the rock outcrop in the area. One small outcrop of quartz-calcite stringers exposed in a small drainage was sampled (sample 1458). Results indicated very low metal values.

Thetis (map no. 75)

The Thetis prospect is located in Billy Basin, which drains into the Indian River northeast of Sitka. The prospect was first mentioned in a USGS publication dated 1898 (Becker, 1898). The site reportedly consists of two short adits that were driven on a gold-bearing quartz vein. A test mill and sawmill were reportedly built in the area by 1904 (Becker, 1898; Wright and Wright, 1905). No further mention of the property is made after 1905.

BLM personnel located, mapped, and sampled one of the two adits reported at the Thetis prospect. The adit exposes a narrow quartz vein, less than one foot thick, that is concordant with a 350°-striking fault. Also exposed are discontinuous quartz stringers up to six inches thick that are hosted by graywacke. The quartz and surrounding graywacke contain minor pyrite and pyrrhotite. Samples of the quartz vein, stringers, and iron-stained graywacke contained very low metal values (samples 1400-1402, 1450-1453).

Silver Bay

Four prospects were examined at the head of Silver Bay in 1996: Green Lake, Bonanza #1, Wicked Fall, and Free Gold (Fig. 3). Historic prospecting in the area was directed at gold-bearing quartz veins. No significant mineralization was discovered at any of the four prospects examined.

Green Lake (map nos. 76-77)

BLM personnel located a caved adit near the outlet of Green Lake (map no. 77). Several authors reported a 300- to 400-foot adit in the area that was part of the Green Lake group of claims (Nelson, 1931; Roehm, 1938). Mineralization was discovered here in 1912 and developed by adits and trenches until about 1928. Free gold was reportedly found at the property, but the mineralization was considered too spotty to sustain development (Nelson, 1931; Roehm, 1938).

Figure 3. Aerial view of the head of Silver Bay. Green Lake on lower left. View to southeast.

Quartz on the dump of the caved Green Lake adit is iron stained and contains minor pyrite. Fragments indicate the quartz was hosted by slate, graywacke, and greenstone. Ribbons of this country rock are common in the quartz pieces. Samples of the quartz returned very low precious metal values (samples 1417, 1465, 1466) .

Bonanza #1 (map no. 78)

Little information is available on the adit located near tidewater at the head of Silver Bay. The adit is marked on an unpublished claim map of the Edgecumbe Exploration Company that dates from the 1940's. It is located on the Bonanza #1 claim of the claim map. The BLM mapped and sampled the adit. The adit follows a shear in black slate that trends 310 °, which is subparallel to the foliation of the slate. Only a few quartz stringers are visible in the adit. Samples from the adit contained very low precious metal values (samples 1403, 1404, 1454). One sample of quartz stringers and black slate (sample 1404) contained 11,350 ppb mercury. Elsewhere in Silver Bay, high mercury values have been associated with higher gold values (Maas and others, 1996).

Wicked Fall (map no. 79)

The Wicked Fall prospect is located about one and a half miles southeast of the head of Silver Bay. It is marked on a USGS Bulletin map from 1912 (Knopf, 1912), but no other information is provided. The site is referred to as the 'Wicked Water Fall' and is marked on an unpublished claim map of the Edgecumbe Exploration Company from the 1940's. This map indicates two adits at the site, but BLM personnel were only able to locate one adit. The other is likely caved and buried beneath alluvium along the banks of the creek that flows through the property.

The Wicked Fall adit is 20 feet long and was driven to undercut quartz veins and stringers that are located along a northwest-trending fault. The adit also cuts northeast-trending, steeply dipping quartz stringers in the area. The veins pinch and swell along strike and are limited in extent. The veins and stringers are hosted by black slate, but graywacke is the predominant rock type in the area. The generally milky quartz is iron stained in places and commonly includes ribbons and fragments of slate. Sparse pyrite and arsenopyrite were the only sulfides detected in the quartz . Samples across the vein exposed in the adit contained 90 to 130 ppb gold (samples 1405-1406). A select sample of iron stained quartz and black slate contained 280 ppb gold (sample 1407). Each of the samples had elevated arsenic values; sample 1407 contained 5,390 ppm arsenic.

Free Gold (map no. 80)

The Free Gold prospect at the head of Silver Bay is mentioned in a USGS report as early as 1904, but little of its history is known. It is marked on an unpublished claim map of the Edgecumbe Exploration Company from the 1940's, which shows an adit at the site. The adit is reported to be over 200 feet in length and to include the best of the Edgecumbe Exploration Company's prospects (J. Burgess, personnal communication). BLM personnel were unable to locate evidence of an adit in the area, possibly due to the snow levels. The BLM sampled quartz from a trench dump and discontinuous quartz veins and stringers in the area. The veins and stringers are hosted in graywacke and contain minor pyrite. Precious metal values are very low (samples 1408, 1455). The highest gold value was 45 ppb gold across 4.1 feet (sample 1408).

Hill prospect (map nos. 81-82)

BLM personnel collected several samples from the magmatic segregation-type deposit at the Hill prospect. The area consists of mafic intrusive rocks, particularly dunite and pyroxenite. The dunite exposures have been prospected for chromite. During 1996, the BLM sampled exposures of sulfide-bearing pyroxenite for their copper, nickel, and platinum-group element potential. Sulfides include chalcopyrite, pyrrhotite, and pyrite. The samples contained from 12 to 3,050 ppm copper and from 7 to 1,100 ppm nickel (samples 1409-1410, 1456-1457). The sample with the highest copper value (sample 1409) also contained the highest PGE value of 55 ppb platinum and 68 ppb palladium. The remaining samples contained up to 5 ppb platinum and 10 ppb palladium.

South Baranof Island

BLM personnel examined two areas of mineralization on South Baranof Island in 1996; the porphyry copper-gold potential at Patterson Bay (map nos. 83-85), and massive and disseminated sulfides at Mt. Muravief (map nos. 98-102). The work in Patterson Bay was to follow up anomalous mineralization found during reconnaissance sampling in 1995. The Mt. Muravief work resulted from a literature search of Bureau of Mines records, which indicated that copper mineralization had been found in the area during the 1960's.

Patterson Bay (map nos. 83-85)

Several float samples collected in the Patterson Bay area in 1995 revealed the presence of anomalous gold and copper mineralization. Follow-up work during 1996 was aimed at finding the source of the anomalies and additional mineralization. BLM personnel examined the ridge to the east of Patterson Bay and discovered minor copper mineralization associated with faults in a tonalite intrusive and near a fault contact between the tonalite and hosting greenstone.

The mineralization discovered in 1996 consists of chalcopyrite in small blebs and very thin veinlets in sheared, silicified tonalite. The mineralization is restricted to a narrow fault zone less than two feet thick that extends for up to 60 feet along strike. Samples contained from 534 to 2,150 ppm copper and 20 ppb gold (samples 1422, 1468).

One of the samples collected by the BLM in 1995 had 970 ppb gold and 4,820 ppm arsenic (Maas and others, 1996). The low gold and arsenic values of this study's samples indicate that the source of the float with anomalous gold sampled in 1995 has not yet been discovered.

Mt. Muravief (map nos. 98-102)

Copper mineralization in the Mt. Muravief area, on southern Baranof Island, was apparently discovered in 1969. At that time a prospector brought some pieces of ore to the Bureau of Mines office in Juneau for sulfide mineral identification. A petrographic report of that ore, found in property files from the area, indicated the presence of chalcocite and bornite. The report described "massive chalcocite from stringers" and other outcrops of copper-bearing rocks on the slopes of Mt. Muravief (W.L. Gnagy, unpublished petrographic report).

The Mt. Muravief area is located within the Chugach terrane (Monger and Berg, 1987). On southern Baranof Island, the terrane is composed of the Sitka Graywacke (Loney and others, 1975), which represents a Cretaceous accretionary wedge complex of flysch and melange (Plafker and others, 1977). The area was mapped by Loney and others (1975) as lineated schistose graywacke and slate, where the Sitka Graywacke has undergone dynamothermal metamorphism.

The country rock in the Mt. Muravief area consists of interlayered graywacke and slate or phyllite. In places the layering of the two rock types is distinct; in others, ductile deformation has transposed bedding such that stretched, rounded clasts of graywacke are found in a slate matrix. The rock is well foliated with foliation generally striking to the northwest. Iron staining is common on weathered surfaces. The staining is probably derived from pyrrhotite that commonly occurs in elongate lenses parallel to foliation.

BLM personnel located copper mineralization in three main areas on the slopes of Mt. Muravief; 1) in a cirque on the southwest side of the mountain (Fig. 4), 2) on a ridge extending from the peak to the west (Figs. 5, 6), and 3) on the north face of the mountain. In each of these areas the mineralization is associated with lenses of greenstone within the surrounding metasedimentary rocks. The lenses are up to 100 feet wide and extend up to 400 feet along strike. The lenses strike generally to the northwest and dip steeply to the southwest. They are elongate parallel to the foliation in the metasediments. In each of the three areas mentioned, the greenstone lenses are surrounded by slate or phyllite within the predominant graywacke of the area. The contacts between greenstone and metasediment appear to be depositional, but may also be fault contacts. The greenstone lenses have been more brittly deformed, whereas the surrounding country rock shows evidence of more ductile deformation. Quartz veins filling fractures are common in the greenstone, but generally absent in the graywacke.

The copper mineralization in the area is associated with felsic, quartz-biotite schists within the greenstone lenses. The schists appear to have been altered, possibly by the mineralizing fluids. Alternatively, they may represent different phases of volcanic activity from the greenstones. The schists contain quartz, biotite, sericite, and amphibole, plus sulfides. The sulfides, mainly pyrrhotite and chalcopyrite, occur in seams parallel to the foliation and in patches that cut across the foliation. Along the west ridge of Mt. Muravief, massive lenses of sulfide occur within the band of felsic schists. The lenses are up to three feet wide and extend up to ten feet along strike.

Figure 4. BLM worker examining disseminated sulfide mineralization in felsic schist at the southwest cirque exposure, Mt. Muravief.

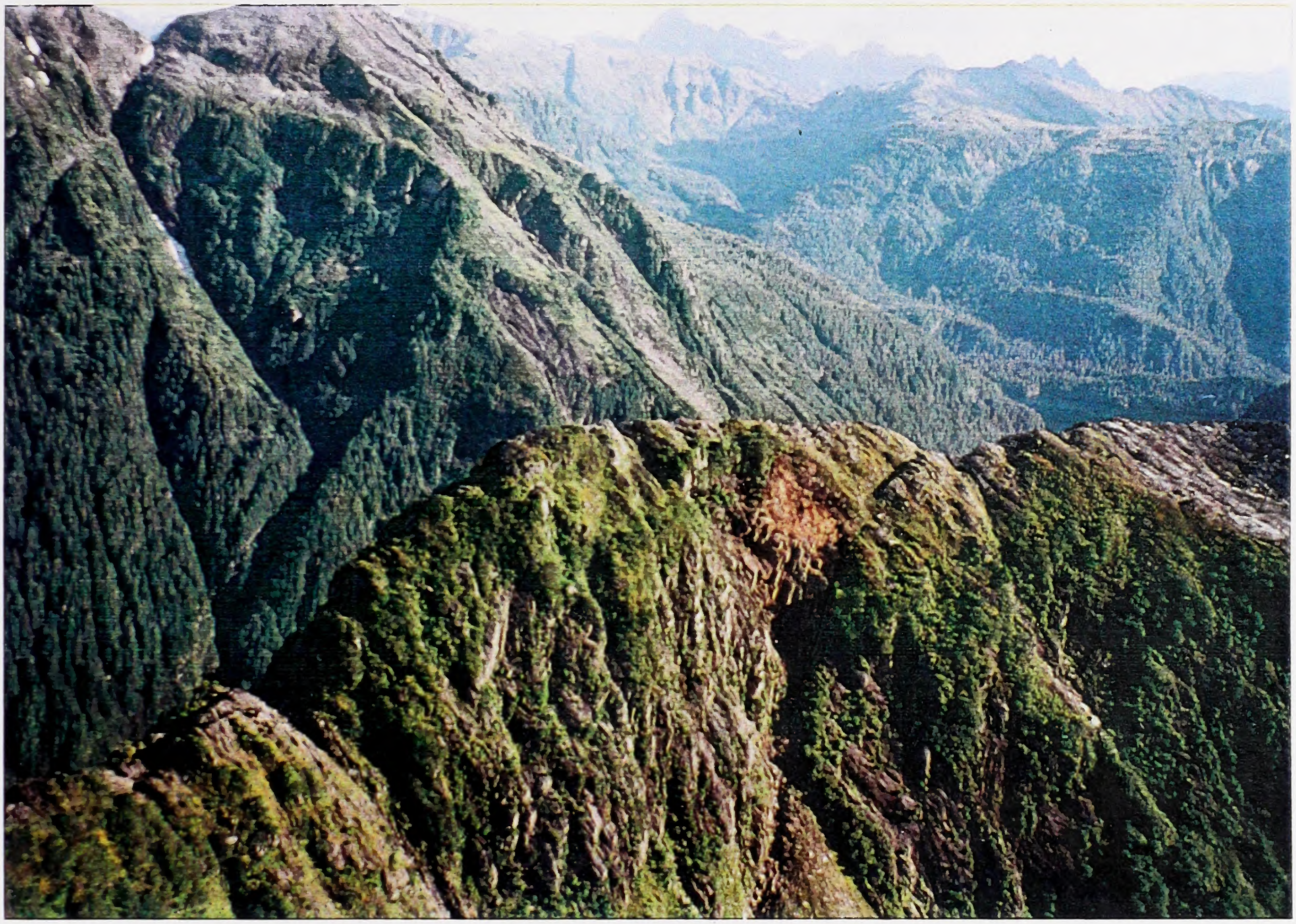

Figure 5. Aerial view of the west ridge exposure, Mt. Muravief. View is to the northeast.

Figure 6. Close-up view of the iron stained massive sulfide exposure, west ridge, Mt. Muravief.

The lenses are parallel to the surrounding foliation; they strike about 315° and dip about 60° to the southwest. Sulfides include pyrrhotite, chalcopyrite, sphalerite, and bornite. A few small specks of native copper were also found within a massive sulfide lens.

Copper mineralization in float was found below the greenstone lens in the southwest cirque of Mt. Muravief. BLM personnel found a 12-foot by 8-foot by 3-foot boulder composed of metamorphosed volcanic breccia in which coarse-grained chalcopyrite and pyrrhotite is found in the matrix. Chalcopyrite is also disseminated in the fine- to very fine-grained metavolcanic clasts in the conglomerate.

In several locations on the north face of Mt. Muravief malachite has leached out of the greenstone and stains the rock surfaces. The source of the copper stain is chalcopyrite that is disseminated in the greenstone, concentrated along fracture surfaces, and forming patches and seams parallel to the foliation. Samples of this copper-bearing greenstone contained up to 3,900 ppm copper and 110 ppb gold (map no. 100, sample 1444).

BLM personnel collected twenty samples from the three mineralized areas on Mt. Muravief. The samples indicate copper grades up to 6.33% (map no. 102, sample 1473), gold to 600 ppb (map no. 101, sample 1433), silver to 14.5 ppm (map no. 102, sample 1474), and zinc to 2,200 ppm (map no. 102, sample 1474). A sample across 18 feet of the mineralized felsic schist on the west ridge returned 1.63 % copper, 3.6 ppm silver, and 560 ppm zinc (map no. 102, sample 1427). The copper grades indicated by the sampling are lower than would be expected by examining the massive sulfide lenses. However, closer examination indicates that the predominant mineral is pyrrhotite and that the chalcopyrite in the samples is mottled and contains more than 50% of very fine-grained inclusions of unidentified material.

Two miles west-southwest of Mt. Muravief, BLM personnel located another lens of greenstone that is about 100 feet wide and extends about 400 feet up the slope of a mountain. Within the predominantly greenstone lens are sections of interlayered greenstone and phyllite/graywacke with layers about five to ten feet wide. In the interlayered sections the greenstone contains minor chalcopyrite. One sample was collected of iron-stained, silicified greenstone that contained 1,300 ppm copper (map no. 120, sample 1512).

Thirty-one stream sediment samples (map nos. between 86 and 121) were collected in and around the Mt. Muravief area. The intent of the stream sampling program was to identify the geochemical character of the copper mineralization in the area and to compare it with geochemical data to be collected elsewhere on southern Baranof Island. Further stream sediment sampling on southern Baranof is scheduled for 1997.

Copper mineralization was examined in several locations in the Mt. Muravief area. However, the location of the mineralization described in the literature that led the BLM to the area may not have been located as yet. The petrographic report describes stringers of massive chalcocite; no such mineralization was discovered during 1996.

Conclusion

Copper-bearing mineralization was discovered in the Mt. Muravief area on southern Baranof Island following review of Bureau of Mines records dating from the 1960's. Field examination revealed that the mineralization occurs as disseminated and massive sulfides in felsic schist, as coarse-grained patches in volcanic breccia, and disseminated in greenstone. Massive chalcocite stringers mentioned in the Bureau of Mines records have not been found as yet. Further work is also needed to define the genesis of the mineralization. These goals are included in BLM field plans for 1997 as well as a stream sediment sampling program to locate similar mineralization elsewhere on southern Baranof Island.

Minor skarn mineralization was discovered during BLM work along logging road systems in the Hoonah area in 1996. The mineralization is located north of Freshwater Bay on northeastern Chichagof Island. Although ore-grade mineralization was not found, the discovery extends the known skarn occurrence in the area.

BLM work in the Silver Bay area southeast of Sitka further defined the status of the area's historic prospects. Surveying, mapping, and sampling of prospects indicated that quartz veining is discontinuous and hosts spotty gold mineralization.

A crew of two BLM personnel spent 19 days surveying, mapping, and sampling sites in the Chichigof-Baranof area during 1996. In total, 195 samples were collected from about 24 mines, prospects, or occurrences. Additional work in the area is scheduled for 1997 and will be included in a report scheduled for release in early 1998.

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APPENDIX A - SAMPLING AND ANALYTICAL PROCEDURES

Sampling

Several types of rock samples were collected, including continuous chip, grab, representative chip, select, and spaced-chip. **Continuous chip** samples consist of rock fragments taken in a continuous line across an exposure; **grab** samples are collections of rock fragments, some broken from larger pieces, taken more or less at random from an outcrop, from float, or from a dump; **representative chip** samples are rock fragments collected to characterize the rock type or material described in the sample description; **select** samples are grab samples collected from the highest-grade part of a mineralized zone; and **spaced-chip** samples are composed of rock fragments taken at specified intervals across an outcrop.

Stream-sediment samples consist of silt to clay-sized particles found in streams or along stream banks. Metals adsorb to these fine particles, so the samples are used to determine the presence of anomalous metal concentrations in the area drained by the stream.

Analytical Methods and Results

Samples were prepared and subsequently analyzed using both atomic absorption spectrophotometry (AA) and inductively coupled argon plasma spectroscopy (ICP) techniques. Gold was analyzed using a 30 gram sample by fire assay preconcentration followed by an AA finish. Silver, copper, lead, zinc, nickel, cobalt, and molybdenum were usually analyzed by AA techniques. A few samples were analyzed for platinum-group metals using fire-assay techniques followed by an ICP finish. Several samples were analyzed for the same element using two different techniques. The result from the more accurate method is presented in the tables.

Rock samples were dried, crushed, and pulverized to at least minus 100 mesh. A sample weight of 0.5 grams was put into solution using a nitric-aqua-regia leach technique for the AA and ICP analyses.

Limestone samples were analyzed using whole rock methods. Major oxide determinations were made by X-ray fluorescence spectroscopy (XRF) and total carbonate by acid/alkali procedures ($CaCO_3$ determined by volumetric/titration method ASTM C-25). Each sample was rinsed, dried, and weighed prior to analysis.

Several rock chip samples were analyzed for rare-earth elements (REE) by neutron activation analysis (NAA). The standard sample preparation described above was used for these samples, however no sample dissolution was required.

Appendix B - Analytical Results Of Samples From Mines, Prospects, and Occurrences

Sample data and analytical results are tabulated in Tables B-1 to B-3. In addition to the analytical results, the following are listed in the tables: map number, field sample number, mineral location name, sample type, sample size, sample site and sample description. The results are organized by map numbers, which are displayed on the sample locality map (Fig. 2, in pocket). Analytical results from carbonate sampling are presented in Table B-2. Rare-earth element (REE) sample analyses are given in Table B-3. A list of analytical detection limits is included as Table B-4.

Key to Appendix B tables

All analyses were conducted by a commercial laboratory. Results are presented by chemical element symbol in the following units:

Au, Hg, Pt, Pd - parts per billion **(ppb)**;

Ag, Cu, Pb, Zn, Mo, Ni, Co, As, Ba, Be, Bi, Cd, Cr, Ga, La, Mn, P, Sb, Sc, Sr, Tl, U, V, W, Ce, Eu, La, Lu, Nd, Sm, Tb, Th, Yb - parts per million **(ppm)**;

Al, Ca, Fe, K, Mg, Na, Ti, oxides, "Loss on Ignition" (LOI), and "Total" carbonate values - **percent.**

Cu analyses in bold and followed by an asterisk (*) are given in **percent**.

Abbreviations

Abbreviations for **sample types** (see page 19 for definitions of sample types):

Rock Chip		Stream Sample	
C	continuous chip	SS	stream sediment
G	grab		
RC	random chip		
Rep	representative chip		
S	select		
SC	spaced chip		

Abbreviations for **sample sites:**

FL	float	RC	rubblecrop
MD	mine dump	TP	trench, pit, or cut
OC	outcrop	UW	underground workings

Abbreviations used in the sample descriptions:

@	at
adj	adjacent
alt	altered
arg	argillite
aspy	arsenopyrite
bt	biotite
br	breccia/brecciated
calc	calcite
cp	chalcopyrite
di	diorite
dissem	disseminated/disseminations
fel	felsic
fest	iron stained
fg	fine-grained
gd	granodiorite
gs	greenstone
gw	graywacke
hem	hematite
hnbd	hornblende
hn	hornfels
ls	limestone
mag	magnetite
ml	malachite
msv	massive
pl	phyllite
po	pyrrhotite
py	pyrite/pyritic
qz	quartz
sed	sediment
sc	schist
sil	silicified/siliceous
sl	sphalerite
sulf	sulfide
volc	volcanic
w/	with

Table B-1. Analytical results from mine, prospect, occurrence, and reconnaissance samples

Map No.	Sam. No.	Location	Sam. Type	Sample Size (ft)	Au ppb	Ag ppm	Cu ppm	* %	Pb ppm	Zn ppm	Mo ppm	Ni ppm	Co ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Cr ppm	Fe %	Ga ppm
1	1242	Westport	Rep		<5	<.2	2930		<2	<2	1	8	7	0.3	2	10	<.5	<2	8.79	<.5	45	2.28	<10
2	1241	Westport	Rep	2	<5	<.2	11		6	22	<1	6	5	0.64	12	60	<.5	<2	>15.00	<.5	27	3.16	<10
2	1391	Westport	S		<5	<.2	54		30	52	<1	49	20	2.74	22	40	<.5	<2	>15.00	<.5	47	5.11	<10
8	1395	Westport	RC		<5	<.2	3		2	60	<1	1	1	0.23	2	160	<.5	<2	0.15	<.5	37	3.94	<10
9	1243	Westport	Rep	2	<5	<.2	1715		<2	<2	<1	5	4	0.24	<2	20	<.5	<2	13.1	<.5	28	7.73	<10
9	1392	Westport	S		<5	<.2	33		6	2	<1	46	27	0.44	<2	10	<.5	<2	9.04	<.5	70	4.66	<10
10	1245	Westport	Rep	0.7	<5	<.2	22		<2	2	<1	<1	<1	0.09	2	3660	<.5	<2	>15.00	0.5	5	0.49	<10
11	1394	Westport	Rep	5.5	<5	<.2	100		<2	50	8	1	4	1.01	<2	40	0.5	<2	1.6	<.5	28	5.7	<10
12	1244	Westport	Rep	2	<5	<.2	26		12	32	12	6	4	0.49	24	20	<.5	<2	0.66	<.5	162	3.36	<10
13	1396	Westport	G		<5	<.2	4		<2	30	3	11	3	0.14	<2	50	<.5	<2	9.89	<.5	135	2.06	<10
14	1393	Westport	S		<5	<.2	25		24	20	6	5	4	0.29	112	40	<.5	<2	0.75	<.5	96	4.72	<10
15	1210	Spaski Creek Road	Rep	15	<5	<.2	30		12	196	<1	46	28	3	<2	90	1	<2	2.9	<.5	121	7.54	10
16	1201	Game Creek Road	Rep	2	<5	<.2	14		10	16	6	<1	<1	0.52	10	30	0.5	<2	0.02	<.5	42	2.4	<10
16	1202	Game Creek Road	Rep	2	<5	<.2	21		8	38	6	1	2	0.6	<2	30	<.5	<2	0.18	<.5	55	3.86	<10
16	1350	Game Creek Road	SC	36 @ 2	<5	<.2	11		10	46	9	1	1	0.37	12	60	<.5	<2	1.69	<.5	68	3.8	<10
16	1351	Game Creek Road	Rep	10	<5	<.2	12		2	50	4	<1	4	0.62	6	50	0.5	<2	2.08	<.5	33	3.18	<10
17	1203	Game Creek Road	Rep	2	<5	<.2	3		2	8	5	1	3	0.32	<2	20	<.5	<2	0.09	<.5	57	2.98	<10
17	1204	Game Creek Road	Rep	2	10	<.2	9		<2	2	9	1	9	0.28	<2	10	<.5	<2	0.26	<.5	77	3.6	<10
17	1205	Game Creek Road	Rep	2	<5	<.2	6		6	6	4	1	22	0.23	2	10	<.5	<2	0.51	<.5	53	3.33	<10
18	1389	Salt Lake Bay	SS		<5	<.2	30		2	50	<1	15	15	3.68	24	80	<.5	<2	2.21	<.5	48	3.79	<10
19	1239	Salt Lake Bay	Rep	0.5	15	1.2	654		6	52	<1	15	70	5.05	52	30	0.5	<2	4.57	<.5	87	6.22	10
19	1388	Salt Lake Bay	S		---	<.2	4		<2	10	1	2	4	2.45	60	10	<.5	<2	2.42	<.5	80	1.34	<10
20	1238	Salt Lake Bay	Rep	1.5	10	<.2	49		2	54	4	8	17	2.79	<2	130	<.5	<2	0.53	<.5	92	5.71	<10
21	1387	Salt Lake Bay	S		<5	0.2	687		<2	44	1	16	27	2.94	2	40	<.5	<2	1.2	<.5	93	7.72	10
22	1240	Salt Lake Bay	Rep	2	<5	<.2	23		<2	48	1	22	13	1.17	6	60	<.5	<2	1.72	<.5	163	3.05	<10
22	1390	Salt Lake Bay	S		<5	<.2	9		2	52	<1	3	9	3.68	12	100	<.5	<2	12.4	<.5	24	4.04	10
23	1237	Salt Lake Bay	S	0.5	30	<.2	16		12	336	18	6	12	1.27	2260	20	<.5	<2	>15.00	<.5	17	3.79	<10
23	1385	Salt Lake Bay	Rep	1.5	<5	<.2	27		2	72	1	6	15	1.56	1700	30	<.5	<2	8.16	<.5	21	4.36	<10
23	1386	Salt Lake Bay	G		---	<.2	20		<2	4	6	2	5	0.59	6	30	<.5	<2	2.86	<.5	111	0.65	<10
24	1236	Salt Lake Bay	SS		<5	<.2	53		4	80	<1	29	14	2.99	6	150	<.5	<2	4.02	<.5	51	3.42	<10
25	1384	Salt Lake Bay	SS		<5	<.2	51		6	98	<1	27	16	3.21	8	140	<.5	<2	1.13	0.5	56	4.19	<10
26	1235	Salt Lake Bay	SS		<5	<.2	60		8	98	<1	31	17	3.58	2	150	<.5	<2	1.63	<.5	54	4.08	<10
27	1355	Seagull Creek Road	G		<5	<.2	74		<2	50	<1	61	40	2.83	22	60	<.5	<2	6.5	<.5	64	7.22	<10
28	1208	Seagull Creek Road	Rep	1.5	25	<.2	340		<2	136	<1	4	16	1.05	82	70	<.5	<2	8.53	1	56	3.55	<10
28	1209	Seagull Creek Road	S	0.66	<5	0.2	735		<2	24	4	192	81	0.7	28	50	<.5	<2	0.78	<.5	109	>15.00	<10
29	1207	Seagull Creek Road	Rep	2	<5	<.2	72		14	150	<1	27	22	2.98	<2	90	<.5	<2	0.65	0.5	53	5.48	<10
30	1354	Game Creek Road	G		<5	<.2	36		112	680	<1	18	14	1.64	2	80	<.5	<2	1.58	2.5	70	3.98	<10
31	1383	Salt Lake Bay	SS		<5	<.2	43		8	96	<1	31	12	3.06	<2	60	<.5	<2	0.42	<.5	43	3.41	<10
32	1234	Salt Lake Bay	SS		<5	<.2	59		8	108	<1	33	17	3.36	6	150	<.5	<2	1.39	<.5	59	4.27	<10

Table B-1. Analytical results from mine, prospect, occurrence, and reconnaissance samples

Map No. ppm	Sam. No. ppm	Hg ppb	K %	La ppm	Mg %	Mn ppm	Na %	P ppm	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Pt ppb	Pd ppb	Sam. Site	Sample Description
1	1242	20	0.03	10	1.29	1460	0.13	580	<2	10	106	<.01	<10	<10	14	<10			TP	Cp , mal in alt br arg of Pt. Augusta fm.
2	1241	<10	0.04	10	1.06	395	0.02	560	<2	1	708	0.03	<10	<10	34	<10			TP	Ls w/ py to 10% near mafic dike
2	1391	10	0.01	10	0.81	325	<.01	390	<2	3	788	0.13	<10	<10	38	<10			TP	Ls at contact w/ volc rock; ~4% py
8	1395	<10	0.07	20	0.09	1085	0.15	50	<2	<1	13	<.01	<10	<10	7	<10			TP	Sil volc w/ dissem py to 2%
9	1243	<10	0.05	10	3.68	1845	0.06	890	<2	10	91	<.01	<10	<10	10	<10			TP	Felsic dike w/ cp to 2% in qz veins
9	1392	40	0.24	10	2.5	945	0.08	1530	<2	15	109	<.01	<10	<10	62	<10			TP	Fg py in alt metased; ~1% py
10	1245	<10	0.03	<10	0.24	940	0.01	<10	<2	<1	1840	<.01	<10	<10	1	<10			TP	Calc vein w/ py to 3%
11	1394	80	0.64	170	0.2	2590	0.09	130	<2	<1	45	<.01	<10	<10	<1	<10			TP	Dissem py to 5% in sil volc
12	1244	310	0.22	40	0.26	405	0.15	80	<2	1	13	<.01	<10	<10	1	<10			TP	Felsic volc w/ dissem & clots of py to 2%
13	1396	10	0.08	<10	0.58	245	0.01	110	<2	3	118	<.01	<10	<10	5	<10			TP	Carbon-rich ls w/ minor py <1%
14	1393	810	0.2	10	0.23	365	0.05	150	<2	1	16	<.01	<10	<10	<1	<10			TP	Sil volc w/ seams & dissem py to 7%
15	1210	<10	0.27	30	2.16	1100	0.11	1110	<2	10	199	0.44	<10	<10	150	<10			OC	Fg intrusive w/ mag
16	1201	30	0.3	60	0.02	315	0.1	80	<2	<1	4	<.01	<10	<10	<1	<10			OC	Rhyolite w/ py in mafic-fel volc sequence
16	1202	50	0.36	110	0.12	1330	0.15	90	<2	<1	12	<.01	<10	<10	1	<10			OC	Fest & sil zone in volc adj to rhyolite
16	1350	70	0.13	40	0.44	1780	0.27	340	<2	4	90	<.01	<10	<10	<1	<10			OC	Rhyolite w/ 2% dissem py
16	1351	80	0.36	20	0.48	2000	0.09	800	<2	<1	116	<.01	<10	<10	8	<10			OC	Alt rhyolite w/ 1-2% py
17	1203	80	0.13	20	0.07	100	0.16	210	<2	<1	7	<.01	<10	<10	1	<10			TP	Sl, py in alt fg intrusive
17	1204	210	0.15	60	0.05	150	0.21	230	<2	<1	7	<.01	<10	<10	<1	<10			TP	Rhyolite w/ py & sl
17	1205	850	0.12	30	0.13	365	0.16	210	<2	1	11	<.01	<10	<10	<1	<10			TP	Cp & py in alt fg intrusive
18	1389	20	0.1	<10	0.83	490	0.05	800	<2	4	120	0.13	<10	<10	122	<10				Gd to di in area
19	1239	60	0.13	<10	0.99	560	0.04	640	<2	7	265	0.21	<10	<10	92	<10			OC	Sheared gd w/ qz veinlets & msv sulf pod
19	1388	160	0.12	10	0.31	155	0.06	110	<2	3	60	0.06	<10	<10	25	<10			TP	K-spar pegmatite dike w/ py seams (1%)
20	1238	<10	0.4	10	1.14	670	0.1	1260	<2	9	64	0.16	<10	<10	141	<10			OC	Dissem py/po to 3% in alt di
21	1387	<10	0.13	<10	1.4	500	0.02	1070	<2	13	118	0.33	<10	<10	155	<10			OC	Fault zone w/ 3% dissem py in gd
22	1240	780	0.11	10	0.79	725	0.09	660	<2	8	44	0.12	<10	<10	89	<10			TP	Highly alt di; oxidized (fest) potassic
22	1390	10	0.12	<10	1.22	1005	0.01	230	<2	2	160	0.08	<10	<10	90	<10			TP	Fault gouge w/ py to 3% in gd to di
23	1237	10	0.14	<10	0.4	2030	0.04	430	36	5	167	<.01	<10	<10	35	<10			TP	Hem in clay gouge in sheared gd
23	1385	30	0.11	<10	0.42	775	0.05	510	30	7	114	0.07	<10	<10	61	<10			TP	Sheared alt gd w/ hem
23	1386	<10	0.11	<10	0.14	110	0.04	40	<2	<1	34	0.01	<10	<10	19	<10			TP	Pegmatite w/ minor crystalline py
24	1236	70	0.43	<10	1.83	445	0.05	680	<2	8	242	0.2	<10	<10	109	<10				Pt. Augusta fm gw + gd
25	1384	70	0.34	10	2.01	585	0.06	750	<2	10	122	0.22	<10	<10	128	<10				Intrusive & gw in area
26	1235	90	0.33	10	1.86	580	0.03	600	<2	10	114	0.23	<10	<10	125	<10				Pt. Augusta fm. gw & marble
27	1355	<10	0.36	<10	3.19	375	0.05	890	<2	4	259	<.01	<10	<10	43	<10			FL	Py cubes & dissem to 10% in ls/marble
28	1208	30	0.21	<10	1.57	475	0.06	930	<2	4	350	<.01	<10	<10	36	<10			OC	Pyritic dike in fractured ls
28	1209	380	0.08	<10	0.41	90	<.01	230	22	1	56	<.01	<10	<10	7	<10			OC	Qz clot between pyritic dike and ls
29	1207	10	0.31	10	2.11	535	0.01	850	<2	5	19	0.25	<10	<10	59	<10			OC	Fest sil volc w/ abundant py
30	1354	80	0.34	10	1.1	635	0.05	820	<2	5	54	<.01	<10	<10	41	<10			FL	Rhyolite w/ dissem py <1%, copper stain
31	1383	30	0.11	<10	2.35	305	0.01	330	<2	7	27	0.09	<10	<10	95	<10				Pt. Augusta fm metaseds in area
32	1234	50	0.33	10	2.21	545	0.04	640	<2	11	98	0.21	<10	<10	127	<10				Pt. Augusta fm. metaseds in area

Table B-1. Analytical results from mine, prospect, occurrence, and reconnaissance samples

Map No.	Sam. No.	Location	Sam. Type	Sample Size (ft)	Au ppb	Ag ppm	Cu ppm	* %	Pb ppm	Zn ppm	Mo ppm	Ni ppm	Co ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Cr ppm	Fe %	Ga ppm
33	1381	Salt Lake Bay	SS		<5	<.2	50		6	104	<1	31	15	2.97	<2	130	<.5	<2	1.04	<.5	52	4.05	<10
33	1382	Salt Lake Bay	Rep		<5	<.2	62		8	44	10	27	11	1.66	<2	20	<.5	<2	0.73	<.5	120	2.96	<10
34	1353	Game Creek Road	SS		<5	<.2	59		12	118	<1	32	17	3.33	20	120	<.5	<2	0.67	0.5	58	4.48	<10
35	1206	Game Creek Road	Rep		<5	<.2	56		66	72	<1	12	7	1.06	<2	40	<.5	<2	14.65	0.5	84	2.34	<10
35	1352	Game Creek Road	S		10	<.2	23		2	2	<1	13	7	0.83	62	400	<.5	<2	4.58	<.5	59	3.17	<10
36	1218	Seal Creek	G		<5	0.2	180		4	22	<1	23	12	5.39	<2	20	<.5	<2	4.01	<.5	112	4.63	10
37	1364	Seal Creek	SS		<5	<.2	22		22	66	<1	17	10	2.88	<2	40	0.5	<2	6.02	0.5	26	3.04	<10
38	1219	Seal Creek	SS		<5	<.2	33		6	136	2	84	17	1.97	6	40	<.5	<2	2.05	0.5	62	3.5	<10
39	1365	Seal Creek	S		<5	0.8	89		10	36	<1	8	17	4.19	14	70.	<.5	<2	4.59	0.5	35	5.38	<10
40	1220	Seal Creek	S		<5	0.6	273		2	16	<1	2	48	1.47	22	<10	<.5	<2	>15.00	<.5	77	10.6	<10
40	1366	Seal Creek	Rep	2.8	<5	0.2	43		28	28	<1	137	43	5.84	20	30	<.5	<2	3.7	0.5	136	6.23	<10
40	1367	Seal Creek	S		<5	0.2	19		102	324	<1	66	62	0.65	58	<10	<.5	<2	7.23	7	67	>15.00	<10
41	1368	Seal Creek	SS		<5	<.2	44		16	128	1	72	15	2.41	6	40	<.5	<2	4.46	0.5	75	3.38	<10
42	1369	Seal Creek	SS		<5	<.2	21		4	92	1	39	12	2.5	<2	40	0.5	<2	2.95	0.5	34	3.33	<10
44	1221	Seal Creek	S	1	15	3	2030		<2	54	<1	5	13	3.63	<2	<10	<.5	<2	13	<.5	140	5.62	10
44	1370	Seal Creek	Rep	60	<5	<.2	124		<2	52	10	22	27	2.02	<2	20	<.5	<2	2.14	0.5	51	4	<10
45	1222	Seal Creek	Rep	1.5	<5	<.2	34		<2	42	<1	27	20	4.2	32	70	0.5	<2	0.59	<.5	122	9.85	10
45	1371	Seal Creek	Rep	30	<5	<.2	90		<2	14	1	13	22	2.33	<2	60	<.5	<2	2.1	<.5	41	3.54	<10
46	1372	Seal Creek	SS		<5	<.2	38		8	124	1	30	19	3.53	34	90	0.5	<2	1.73	0.5	38	4.12	<10
47	1223	Seal Creek	Rep	0.1	<5	<.2	8		<2	88	<1	5	14	0.6	2	1570	<.5	<2	>15.00	0.5	31	4.57	<10
48	1229	Tenakee Road	Rep		<5	<.2	82		<2	52	1	8	31	3.54	<2	20	<.5	<2	4.69	<.5	13	6.93	10
48	1230	Tenakee Road	Rep		<5	<.2	1		<2	8	<1	4	8	0.49	24	90	<.5	<2	>15.00	<.5	18	2.37	<10
48	1380	Tenakee Road	S		30	<.2	182		<2	28	<1	13	68	1.29	4	50	<.5	<2	7.29	<.5	61	8.65	<10
49	1231	Tenakee Road	C	0.66	<5	<.2	165		<2	142	<1	39	31	3.87	<2	10	0.5	<2	6.49	<.5	68	6.04	20
50	1232	Tenakee Road	S	0.1	5	<.2	99		2	78	3	2	20	2.48	<2	10	<.5	<2	2.61	<.5	45	5.36	10
51	1233	Trap Bay	Rep		---	<.2	36		2	18	<1	3	2	0.32	2	10	<.5	<2	0.79	<.5	234	0.46	<10
52	1374	Corner Bay	Rep		<5	<.2	37		8	88	1	4	12	0.8	6	230	0.5	<2	6.46	<.5	16	4.27	<10
53	1375	Corner Creek	S		<5	<.2	22		<2	34	<1	2	1	0.11	<2	<10	<.5	<2	>15.00	<.5	4	2.12	<10
54	1224	Kadashan Bay	Rep		---	<.2	15		10	20	2	2	4	0.52	<2	10	2	<2	3.24	<.5	47	1.41	<10
54	1373	Kadashan Bay	Rep	2	---	<.2	75		12	26	1	1	3	0.49	2	10	1.5	<2	1.78	<.5	38	1.9	<10
55	1225	Corner Creek	Rep	1	<5	<.2	7		<2	20	1	11	27	1.22	<2	40	<.5	<2	2.8	<.5	59	2.7	<10
55	1376	Corner Creek	S		<5	0.2	89		2	86	<1	35	82	3.43	<2	<10	<.5	2	2.43	<.5	71	14.6	10
56	1377	Corner Creek	Rep		---	<.2	9		<2	36	1	1	3	0.77	<2	10	<.5	<2	0.33	<.5	37	2.69	<10
57	1378	Kook Lake	SS		<5	<.2	25		12	118	6	20	16	2.38	<2	70	0.5	<2	1.57	<.5	34	4.17	<10
58	1379	Kook Lake	SS		<5	<.2	28		14	106	5	25	15	3.15	<2	50	1	<2	1.44	<.5	51	3.21	<10
59	1228	Kook Lake	SS		10	<.2	23		24	190	2	24	12	3.39	<2	40	2	<2	1.69	0.5	44	3.4	<10
60	1226	Kook Lake	Rep		---	<.2	4		4	16	3	1	9	0.67	<2	10	<.5	<2	1.01	<.5	67	1.83	<10
61	1227	Kook Lake	SS		<5	<.2	25		32	210	<1	28	12	4.14	<2	40	2.5	<2	2.35	0.5	44	2.96	<10
62	1211	Sitkoh Bay	Rep		<5	<.2	27		2	64	<1	3	12	6.59	<2	30	0.5	<2	4.88	<.5	36	4.06	10

Table B-1. Analytical results from mine, prospect, occurrence, and reconnaissance samples

Map No. ppm	Sam. No. ppm	Hg ppb	K %	La ppm	Mg %	Mn ppm	Na %	P ppm	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Pt ppb	Pd ppb	Sam. Site	Sample Description
33	1381	50	0.24	10	2	530	0.02	650	<2	10	64	0.16	<10	<10	113	<10				Gd and minor marble in area
33	1382	30	0.15	<10	0.81	40	0.11	390	<2	3	89	0.09	<10	<10	66	<10			OC	Pt. Augusta fm gw w/ <1% py
34	1353	60	0.32	10	2.29	645	0.01	650	<2	12	55	0.18	<10	<10	126	<10				In Pt. Augusta fm. metaseds
35	1206	<10	0.17	<10	0.72	1525	0.04	300	<2	6	663	<.01	<10	<10	31	<10			TP	Py & cp in qz w/ gw and sil slate
35	1352	350	0.32	<10	1.12	830	0.03	510	2	6	119	<.01	<10	<10	21	<10			TP	Gw w/ seams of py <1%
36	1218	<10	0.19	<10	0.92	185	1.05	880	<2	3	240	0.28	<10	<10	67	<10			FL	Fest skarnified intrusive near ls contact
37	1364	40	0.08	10	2.94	510	0.03	590	<2	3	136	0.15	<10	<10	74	<10				Felsic intrusive and marble float
38	1219	40	0.1	10	2.18	470	0.05	1240	<2	4	57	0.27	<10	<10	75	<10				Downstream from intrusive-ls contact
39	1365	<10	0.12	<10	2.19	240	0.98	850	<2	4	181	0.11	<10	<10	72	<10			FL	Marble w/ 2-3 % py, po, cp
40	1220	10	0.06	<10	0.39	275	0.35	330	<2	<1	198	0.06	<10	<10	12	<10			TP	Hn lens in ls, py/po to 5%
40	1366	<10	0.19	<10	2.18	175	0.92	1020	<2	3	215	0.15	<10	<10	43	<10			TP	Felsic dike w/ 5% py + po
40	1367	10	<.01	<10	0.75	405	<.01	70	<2	1	40	0.01	<10	<10	28	<10			RC	Py (40%) in calc matrix near dike; skarn
41	1368	40	0.13	10	2.58	420	0.02	1020	<2	5	110	0.17	<10	<10	79	<10				Area of ls w/ intruding dikes
42	1369	40	0.08	10	1.76	440	0.04	800	<2	3	127	0.2	<10	<10	77	<10				Ls w/ mafic dikes in area
44	1221	30	0.01	<10	0.36	1045	0.01	120	<2	1	4	0.06	<10	<10	52	<10			OC	Skarn w/ garnet, epidote; cp <1%, mal, py
44	1370	<10	0.07	<10	0.33	110	0.44	1480	<2	1	177	0.16	<10	<10	24	<10			OC	Sil intrusive w/ ~5% dissem py & po
45	1222	20	<.01	10	2.24	3020	<.01	350	<2	7	11	<.01	<10	<10	77	<10			OC	Fest skarn w/ py/po; 6' skarn zone
45	1371	<10	0.14	<10	0.78	165	0.2	670	<2	4	228	0.19	<10	<10	80	<10			OC	Intrusive w/ dissem py/po to 3% near skarn
46	1372	100	0.13	10	1.24	725	0.03	1160	<2	5	113	0.19	<10	<10	102	<10				Mapped Freshwater Bay volcanics
47	1223	<10	0.23	10	1.66	2990	0.01	330	<2	1	416	<.01	<10	<10	46	<10			TP	Ribbons of hem in qz vein in fault w/ gs
48	1229	<10	0.09	10	2.32	345	0.04	3040	<2	7	123	0.06	<10	<10	119	<10			TP	Py to 5% on fractures in gs dike in ls
48	1230	<10	<.01	<10	0.73	425	0.01	110	<2	1	574	<.01	<10	<10	17	<10			TP	Marble w/ py to 10%; near intrusive contact
48	1380	20	0.2	<10	0.94	450	0.02	850	<2	5	152	0.1	<10	<10	74	<10			TP	Interbedded gw & ls w/ ~7% py/po
49	1231	790	<.01	<10	3.06	610	<.01	1160	<2	16	67	0.49	<10	<10	250	<10			OC	Mafic dike w/ py to 2% in marble
50	1232	<10	0.17	30	1.5	515	0.15	2020	<2	6	61	0.25	<10	<10	10	<10			TP	Py/po to 2% in mafic dike; ls host
51	1233	<10	0.16	10	0.08	175	0.11	20	<2	<1	10	0.01	<10	10	4	<10			OC	Minor py, trace cp, in aplite dike in hn
52	1374	<10	0.35	10	1.47	1325	0.05	1180	<2	3	414	<.01	<10	<10	22	<10			TP	Metavolc w/ <1% dissem py
53	1375	10	<.01	<10	0.86	130	0.01	<10	<2	<1	241	<.01	<10	<10	1	<10			TP	Ls w/ bands of po & py to 3%
54	1224	<10	0.23	40	0.27	1190	0.11	220	<2	<1	75	0.01	<10	10	10	<10			TP	Syenite w/ little to no qz; minor py
54	1373	60	0.21	40	0.24	665	0.1	220	<2	1	49	0.01	<10	<10	11	<10			TP	Alt syenite along shear
55	1225	<10	0.15	20	0.67	420	0.09	540	<2	1	142	0.15	<10	<10	34	<10			TP	Alt syenite inclusion in di; py to 2%
55	1376	10	0.09	<10	2.11	850	<.01	1350	<2	4	256	0.39	<10	<10	104	<10			TP	Shear-hosted py in metavolc; py 15%
56	1377	<10	0.14	<10	0.44	425	0.06	390	<2	1	35	0.09	<10	<10	25	<10			TP	Highly fractured syenite
57	1378	50	0.11	10	1.37	1025	<.01	1500	<2	4	204	0.21	<10	<10	101	<10				Syenite, metavolc, & ls float
58	1379	40	0.14	10	1.11	950	0.04	900	<2	4	174	0.18	<10	<10	74	<10				Volc and syenite float
59	1228	70	0.2	30	1.08	1690	0.09	690	<2	4	214	0.19	<10	<10	69	<10				Gd, syenite & mafic dike rock as float
60	1226	<10	0.23	10	0.13	265	0.1	130	<2	<1	21	0.11	<10	<10	18	<10			TP	Py & cp in clots to 5% in syenite
61	1227	80	0.26	40	1.11	2050	0.22	520	<2	4	354	0.18	<10	10	55	<10				Gd, syenite, & volc as float
62	1211	80	0.07	<10	1.26	655	0.03	620	2	12	215	0.16	<10	<10	109	<10			OC	Cg bt-hnbd tonalite w/ finely dissem py

Table B-1. Analytical results from mine, prospect, occurrence, and reconnaissance samples

Map No.	Sam. No.	Location	Sam. Type	Sample Size (ft)	Au ppb	Ag ppm	Cu ppm	* %	Pb ppm	Zn ppm	Mo ppm	Ni ppm	Co ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Cr ppm	Fe %	Ga ppm
63	1212	Sitkoh Bay	Rep		<5	<.2	43		4	34	1	6	13	3.64	<2	10	<.5	<2	3.07	<.5	44	3.1	10
64	1356	Sitkoh Bay	G		10	<.2	94		6	46	<1	20	28	4.39	<2	30	0.5	<2	6.89	<.5	34	3.43	10
65	1363	Sitkoh Bay	Rep		---	<.2	7		6	14	<1	8	4	0.9	<2	40	<.5	<2	0.97	<.5	111	1.04	<10
66	1362	Sitkoh Bay	SS		<5	<.2	19		22	248	1	41	13	2.79	<2	50	1	<2	1.99	3	54	3.5	<10
67	1217	Sitkoh Bay	S		<5	0.2	460		2	44	<1	4	43	1.45	<2	80	<.5	<2	1.31	<.5	65	6.75	<10
67	1361	Sitkoh Bay	S		10	0.8	97		2	14	13	1	83	0.91	50	10	<.5	<2	0.18	<.5	27	>15.00	<10
68	1360	Sitkoh Bay	S		<5	<.2	29		<2	18	1	2	7	1.24	<2	<10	<.5	<2	9	<.5	40	3.13	<10
69	1216	Sitkoh Bay	S	1	<5	<.2	60		<2	26	3	12	16	1.03	<2	90	<.5	<2	0.35	<.5	410	3.23	<10
70	1215	Sitkoh Bay	Rep	2	---	<.2	<1		2	70	<1	<1	1	0.92	<2	<10	<.5	<2	0.14	<.5	49	2.03	<10
70	1359	Sitkoh Bay	Rep	2.6	---	<.2	90		<2	130	<1	9	26	2.64	<2	<10	0.5	<2	3.74	<.5	21	4.66	10
71	1214	Sitkoh Bay	Rep		---	<.2	3		10	70	2	<1	4	0.78	<2	80	0.5	<2	2.29	<.5	25	1.54	<10
71	1358	Sitkoh Bay	S		---	<.2	8		16	90	1	<1	7	0.97	6	70	0.5	<2	2.21	<.5	27	2.75	<10
72	1213	Sitkoh Bay	S	0.1	<5	<.2	16		<2	54	<1	8	38	4	<2	30	0.5	<2	4.31	<.5	66	3.93	10
72	1357	Sitkoh Bay	S		<5	<.2	18		2	52	<1	12	67	3.41	<2	70	0.5	<2	3.79	<.5	38	4.16	10
73	1413	Sealion Cove	Rep	0.18	555	0.6	53		8	8	1	5	3	0.2	660	20	<.5	24	0.03	<.5	339	1.01	<10
73	1414	Sealion Cove	Rep	0.67	20	<.2	30		<2	90	1	17	5	2.07	80	250	<.5	<2	0.24	0.5	112	3.58	<10
73	1415	Sealion Cove	C	0.25	5	<.2	6		<2	18	1	5	1	0.48	22	80	<.5	<2	0.07	<.5	315	0.97	<10
73	1416	Sealion Cove	C	0.33	25	0.2	220		<2	2	2	8	6	0.12	70	<10	<.5	<2	0.07	<.5	290	1.59	<10
73	1459	Sealion Cove	C	0.5	1190	0.2	73		<2	<2	3	6	5	0.06	1890	<10	<.5	22	0.06	<.5	319	0.99	<10
73	1460	Sealion Cove	G	0.4	2360	0.4	82		<2	68	2	14	7	2.77	6900	230	<.5	10	0.87	<.5	120	3.39	<10
73	1461	Sealion Cove	C	0.5	1810	0.3	58		<2	6	13	6	7	0.27	1645	20	<.5	32	0.09	<.5	342	0.98	<10
73	1462	Sealion Cove	Rep	50	20	0.2	18		<2	88	4	14	6	2.16	740	290	<.5	<2	0.34	<.5	200	3.24	<10
73	1463	Sealion Cove	RC	5	10	0.6	23		<2	110	1	20	9	2.03	1510	190	<.5	<2	0.25	<.5	99	3.92	<10
73	1464	Sealion Cove	RC	10	15	0.2	61		14	104	2	3	1	0.51	748	260	<.5	<2	0.08	<.5	215	1.77	<10
74	1412	Halleck Island	G		20	<.2	56		<2	56	1	316	32	3.35	34	80	<.5	<2	5.74	<.5	727	4.3	<10
74	1458	Halleck Island	G	0.5	<5	<.2	1		<2	10	1	10	3	8.4	<2	<10	<.5	<2	9.49	<.5	55	1.12	<10
75	1400	Thetis	Rep		10	0.2	23		12	56	1	11	5	0.64	2	20	<.5	<2	0.65	0.5	202	1.63	<10
75	1401	Thetis	SS			0.2	81		2	116	2	47	25	3.04	10	40	<.5	<2	0.7	0.5	108	4.57	<10
75	1402	Thetis	SS			1	66		14	202	3	53	34	3.38	130	90	0.5	<2	0.81	1.5	59	4.76	<10
75	1450	Thetis	C	5	<5	<.2	52		18	70	2	23	10	1.9	<2	60	<.5	<2	3.03	0.5	101	3.55	<10
75	1451	Thetis	C	0.8	<5	<.2	14		4	20	1	9	3	0.58	<2	10	<.5	<2	4.31	<.5	129	1.18	<10
75	1452	Thetis	C	3.0	<5	0.2	41		44	122	1	16	7	1.23	2	30	<.5	<2	1.31	1.5	145	2.53	<10
75	1453	Thetis	C	2.3	<5	0.6	60		80	134	3	18	9	1.1	2	10	<.5	<2	0.98	1.5	99	3.12	<10
76	1418	Green Lake	C	2	<5	<.2	157		<2	<2	<1	3	<1	0.04	<2	<10	<.5	<2	0.01	<.5	155	0.25	<10
77	1417	Green Lake	G		10	<.2	27		8	12	1	7	2	0.33	2	20	<.5	<2	0.28	<.5	304	0.85	<10
77	1465	Green Lake	RC		5	<.2	4		<2	2	<1	5	1	0.05	8	<10	<.5	<2	<.01	<.5	312	0.37	<10
77	1466	Green Lake	G	0.5	<5	<.2	1		12	2	<1	3	<1	0.09	6	10	<.5	<2	0.03	<.5	240	0.36	<10
78	1403	Bonanza #1	C	4.5	5	<.2	28		<2	78	3	20	10	1.98	4	90	<.5	<2	2.31	<.5	47	3.5	<10
78	1404	Bonanza #1	C	4.3	10	<.2	50		2	88	2	21	13	2.29	52	170	<.5	<2	3.37	<.5	53	4.18	<10

Table B-1. Analytical results from mine, prospect, occurrence, and reconnaissance samples

Map No. ppm	Sam. No. ppm	Hg ppb	K %	La ppm	Mg %	Mn ppm	Na %	P ppm	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Pt ppb	Pd ppb	Sam. Site	Sample Description
63	1212	70	0.11	<10	0.7	275	0.08	870	<2	4	56	0.18	<10	<10	71	<10			FL	Fest hn near intrusive contact
64	1356	<10	0.07	<10	0.73	220	0.17	1430	<2	4	204	0.24	<10	<10	72	<10			RC	Banded hn w/ po/py <1%
65	1363	<10	0.09	<10	0.35	130	0.08	200	<2	1	33	0.06	<10	<10	21	<10			OC	Felsic dike in hn & tonalite
66	1362	60	0.21	10	1.42	1425	0.08	910	<2	4	134	0.21	<10	<10	146	<10				Area of intrusives w/ minor marble
67	1217	10	0.31	10	0.44	735	0.07	620	<2	<1	90	0.15	<10	<10	37	<10			RC	Clots of py/po in trondhjemite
67	1361	110	0.03	<10	0.09	1260	<.01	330	<2	<1	27	0.09	<10	<10	19	<10			OC	Msv py in shear in intrusive; py to 25%
68	1360	<10	0.02	<10	0.08	960	0.02	530	<2	1	44	0.08	<10	<10	82	<10			RC	Skarn w/ ~1% py
69	1216	<10	0.36	<10	0.54	200	0.08	350	<2	5	33	0.14	<10	<10	50	<10			OC	Qz w/ hn
70	1215	10	0.33	10	0.19	1285	0.09	210	<2	<1	13	0.09	<10	<10	16	<10			OC	Syenite w/ thin black silicate veinlets
70	1359	40	0.62	<10	2.45	1495	0.01	820	<2	12	235	0.25	<10	<10	146	<10			OC	Diabase dike in alkalic intrusive; po <1%
71	1214	<10	0.26	10	0.31	935	0.06	540	<2	<1	162	0.11	<10	<10	13	<10			OC	K-spar-rich syenite
71	1358	10	0.25	10	0.41	980	0.04	500	<2	<1	102	0.1	<10	<10	23	<10			RC	Alkalic intrusive w/ py ~1%
72	1213	20	0.11	<10	1.58	565	0.07	1270	<2	8	288	0.22	<10	<10	131	<10			OC	Alt tonalite in shear w/ py/po to 10%
72	1357	10	0.15	<10	1.34	550	0.1	1340	<2	7	166	0.21	<10	<10	113	<10			RC	Bt-hnbld tonalite w/ py to 3% in alt zones
73	1413	<10	0.12	<10	0.11	50	0.01	30	<2	<1	6	0.01	<10	<10	9	<10			OC	Qz vein w/ minor sulf; py 1%, aspy
73	1414	<10	1.51	<10	1.43	480	<.01	500	<2	12	13	0.25	<10	<10	105	<10			OC	Hornfelsed sandstone hosting qz vein
73	1415	<10	0.25	<10	0.24	115	0.01	90	<2	1	7	0.05	<10	<10	20	<10			OC	Qz in hornfelsed sandstone
73	1416	<10	0.08	<10	0.09	30	<.01	50	<2	<1	8	<.01	<10	<10	5	<10			OC	Qz w/ aspy (2%), py + cp <<1%
73	1459	<10	<.01	<10	0.01	20	<.01	<10	<2	<1	1	<.01	<10	<10	2	20			OC	Qz vein w/ po & aspy
73	1460	10	1.19	<10	1.18	500	0.13	450	<2	10	49	0.18	<10	<10	90	10			OC	Hornfels
73	1461	<10	0.09	<10	0.07	50	0.02	30	<2	<1	10	0.01	<10	<10	8	<10			OC	Qz vein w/ po & aspy
73	1462	<10	1.2	<10	1.2	500	0.07	600	<2	11	23	0.21	<10	<10	101	<10			OC	Hn br zone w/ qz stringers & br sparse po
73	1463	<10	1.28	<10	1.39	590	0.03	620	<2	12	10	0.22	<10	<10	114	10			OC	Fest br zone; hn adj to fel dike
73	1464	<10	0.2	<10	0.05	85	0.08	50	<2	<1	13	0.01	<10	<10	1	<10			OC	Tonalite w/ 4% po
74	1412	230	<.01	<10	6.1	895	<.01	530	68	14	293	<.01	<10	<10	99	<10			OC	Arg w/ minor qz stringers; minor fest
74	1458	<10	<.01	<10	0.88	310	0.05	<10	<2	4	20	0.01	<10	<10	26	<10			FL	Silicified calcareous rock
75	1400	<10	0.07	<10	0.39	300	<.01	260	<2	1	24	0.03	<10	<10	16	<10			OC	Qz stringers and lenses in arg; <1% po
75	1401	30	0.12	<10	2.17	780	<.01	560	2	6	51	0.22	<10	<10	100	<10				Bedrock mainly gw w/ arg & qz stringers
75	1402	40	0.21	<10	1.45	960	<.01	1020	2	6	121	0.17	<10	<10	96	<10				Gw & arg bedrock; fest qz boulder float
75	1450	10	0.22	<10	1.19	675	<.01	670	<2	3	126	0.08	<10	<10	40	<10			UW	Gw w/ 3 qz stringers from .05 to .2 ft thick
75	1451	<10	0.05	<10	0.36	730	<.01	170	<2	1	121	0.05	<10	<10	21	<10			UW	Qz vein w/ po and py
75	1452	10	0.13	<10	0.79	405	<.01	390	<2	2	46	0.08	<10	<10	33	<10			UW	Qz vein and stringers w/ blebs of sulf
75	1453	<10	0.07	<10	0.71	395	<.01	430	<2	2	35	0.07	<10	<10	33	<10			UW	Fest, sheared gw and qz
76	1418	<10	<.01	<10	0.02	20	<.01	<10	<2	<1	<1	<.01	<10	<10	1	<10			OC	Qz vein w/ minor py in gw; py<<1%
77	1417	<10	0.04	<10	0.15	180	<.01	40	<2	<1	20	0.02	<10	<10	6	<10			MD	Fest qz in slate w/ minor py (<1%)
77	1465	<10	0.01	<10	0.01	40	<.01	<10	<2	<1	<1	<.01	<10	<10	1	<10			MD	Qz vein w/ slate ribbon texture
77	1466	10	0.01	<10	0.04	45	<.01	<10	<2	<1	1	0.01	<10	<10	3	<10			MD	Vuggy qz vein w/ gs, some ribbons
78	1403	170	0.13	<10	1.11	560	<.01	650	<2	3	93	0.16	<10	<10	36	<10			UW	Interbedded gw & slate; minor qz stringer
78	1404	11350	0.29	<10	0.96	650	<.01	690	2	3	330	0.2	<10	<10	27	<10			UW	Sheared black slate w/ minor qz stringers

Table B-1. Analytical results from mine, prospect, occurrence, and reconnaissance samples

Map No.	Sam. No.	Location	Sam. Type	Sample Size (ft)	Au ppb	Ag ppm	Cu ppm	* %	Pb ppm	Zn ppm	Mo ppm	Ni ppm	Co ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Cr ppm	Fe %	Ga ppm
78	1454	Bonanza #1	C	3.0	<5	<.2	32		8	90	3	19	12	2.22	30	130	<.5	<2	1.74	<.5	79	4.77	<10
79	1405	Wicked Fall	C	1.8	130	<.2	2		<2	14	1	4	1	0.16	1295	10	<.5	<2	0.78	<.5	82	0.77	<10
79	1406	Wicked Fall	C	1.9	90	<.2	2		<2	16	1	8	3	0.42	2480	50	<.5	<2	1.96	<.5	250	1.25	<10
79	1407	Wicked Fall	S		280	<.2	7		2	34	2	11	6	0.57	5390	50	<.5	<2	2.46	<.5	143	1.73	<10
80	1408	Free Gold	Rep	4.1	45	<.2	1		<2	2	<1	10	1	0.09	224	<10	<.5	<2	0.43	1	278	0.53	<10
80	1455	Free Gold	G	0.4	<5	<.2	5		<2	2	<1	6	1	0.08	222	<10	<.5	<2	0.09	1	283	0.47	<10
81	1410	Hill prospect	S		<5	<.2	680		<2	32	1	174	86	2.33	<2	<10	<.5	<2	1.12	<.5	128	5.46	<10
81	1411	Hill prospect	S		<5	<.2	680		<2	14	1	370	98	1.57	<2	<10	<.5	<2	0.49	<.5	488	4.05	<10
81	1457	Hill prospect	G		<5	<.2	12		<1	4	<1	7	1	0.18	<2	40	<.5	<2	0.06	<.5	381	0.63	<10
82	1409	Hill prospect	G		10	0.8	3050		<2	50	1	1100	196	2.07	18	<10	<.5	6	0.05	0.5	325	8.47	<10
82	1456	Hill prospect	G		<5	<.2	1150		<1	42	1	265	186	2.62	<2	<10	<.5	<2	1.45	<.5	72	7.24	<10
83	1419	Patterson Bay	G		20	0.2	31		<2	16	1	18	9	0.79	12	10	<.5	<2	2.4	<.5	208	2.53	<10
84	1468	Patterson Bay	Rep	0.4	20	0.6	2150		<2	30	10	2	6	5.17	<2	<10	0.5	<2	5.91	<.5	118	2.44	10
85	1422	Patterson Bay	G		<5	<.2	534		<2	54	2	36	19	2.27	6	120	<.5	<2	1.63	<.5	165	3.08	<10
86	1531	Mt. Muravief area	SS		<5	<.2	47		2	114	<1	23	13	2.79	22	250	<.5	<2	0.17	<.5	54	4.94	10
87	1440	Mt. Muravief area	SS		<5	<.2	38		10	102	<1	25	21	3.55	26	170	<.5	<2	0.13	<.5	59	4.5	10
88	1439	Mt. Muravief area	SS		<5	<.2	39		6	102	1	25	15	2.91	36	380	<.5	<2	0.22	<.5	66	4.44	10
89	1438	Mt. Muravief area	SS		<5	<.2	50		10	122	1	22	20	3.24	22	290	<.5	<2	0.15	0.5	51	5.34	10
89	1478	Mt. Muravief area	SS		<5	<.2	71		12	112	1	25	26	3.08	38	240	<.5	<2	0.15	<.5	52	5.12	10
90	1477	Mt. Muravief area	SS	0.4	<5	<.2	31		8	92	1	18	11	2.62	26	240	<.5	<2	0.13	<.5	47	4.29	<10
91	1437	Mt. Muravief area	SS		<5	<.2	81		8	142	1	47	29	3.16	28	230	<.5	<2	0.36	<.5	60	4.93	10
92	1442	Mt. Muravief area	SS		<5	<.2	95		6	134	<1	29	22	2.97	40	230	<.5	<2	0.26	<.5	66	4.56	10
92	1443	Mt. Muravief area	SS		<5	<.2	96		6	116	<1	44	29	2.91	22	130	<.5	<2	0.39	<.5	102	4.67	<10
93	1480	Mt. Muravief area	SS		<5	<.2	105		2	94	1	85	35	2.61	36	100	<.5	<2	0.75	<.5	174	3.97	<10
93	1481	Mt. Muravief area	SS		<5	<.2	64		4	152	<1	34	28	3.25	38	200	<.5	<2	0.37	<.5	65	4.69	10
94	1476	Mt. Muravief area	Rep	2.5	<5	<.2	190		3	14	<1	5	3	0.29	<2	<10	<.5	<2	0.14	<.5	245	0.87	<10
95	1430	Mt. Muravief area	S		<5	<.2	145		<1	175	<1	87	37	3.67	58	320	<.5	<2	0.27	<.5	367	7.45	10
95	1431	Mt. Muravief area	G		<5	<.2	150		<1	175	<1	117	56	3.68	254	260	<.5	<2	0.71	<.5	416	7.49	10
95	1432	Mt. Muravief area	G		<5	0.3	95		2	140	<1	14	8	3	<2	70	<.5	<2	0.1	<.5	327	6.78	<10
96	1429	Mt. Muravief area	G		<5	<.2	66		<1	86	2	11	6	1.81	26	70	0.5	<2	0.18	<.5	57	14.95	<10
97	1441	Mt. Muravief area	SS		<5	<.2	106		6	106	<1	63	32	3.07	22	80	<.5	<2	0.37	<.5	157	5.06	<10
97	1479	Mt. Muravief area	SS		<5	<.2	234		12	104	2	25	18	2.72	38	170	<.5	<2	0.15	<.5	59	5.16	<10
98	1426	Mt. Muravief	G		20	4.8	8800		<1	380	18	36	71	2.47	<2	70	<.5	<2	0.31	1.5	300	9.13	<10
99	1423	Mt. Muravief	C	3.5	<5	1.3	1600		<1	400	7	7	7	3.23	<2	70	<.5	<2	0.15	<.5	312	10.35	10
99	1424	Mt. Muravief	S		<5	0.7	2500		<1	1380	4	24	29	3.48	<2	110	<.5	<2	0.13	4.5	310	10.1	10
99	1425	Mt. Muravief	Rep		130	<.2	18		48	10	<1	7	3	0.22	<2	<10	<.5	<2	0.03	<.5	245	0.59	<10
100	1434	Mt. Muravief	Rep		<5	<.2	4		<1	2	<1	3	<1	0.07	2	<10	<.5	<2	0.01	<.5	145	0.27	<10
100	1444	Mt. Muravief	G		110	1.8	3900		<1	370	1	59	50	5.31	12	170	<.5	<2	0.28	0.5	262	9.84	10
100	1445	Mt. Muravief	S		<5	<.2	1700		<1	73	<1	45	32	2.55	60	120	<.5	2	1.3	<.5	131	9.63	<10

Table B-1. Analytical results from mine, prospect, occurrence, and reconnaissance samples

Map No. ppm	Sam. No. ppm	Hg ppb	K %	La ppm	Mg %	Mn ppm	Na %	P ppm	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Pt ppb	Pd ppb	Sam. Site	Sample Description
78	1454	330	0.32	<10	0.97	900	<.01	700	<2	3	135	0.16	<10	<10	30	<10			UW	Gw, slate and sparse qz stringers
79	1405	90	0.02	<10	0.22	230	<.01	100	<2	<1	58	<.01	<10	<10	3	<10			UW	Qz vein in black slate, py + aspy <1%
79	1406	50	0.1	<10	0.27	545	<.01	180	<2	1	130	<.01	<10	<10	8	<10			UW	Qz vein + black slate in shear
79	1407	10	0.1	<10	0.29	675	<.01	400	2	1	189	<.01	<10	<10	8	<10			UW	Fest qz & black slate
80	1408	<10	0.01	<10	0.12	110	<.01	30	<2	<1	17	<.01	<10	<10	2	<10			OC	Qz veins & stringers in gw; minor py
80	1455	<10	0.01	<10	0.04	125	<.01	320	<2	<1	6	<.01	<10	<10	2	<10			MD	Qz vein w/ sparse py
81	1410	<10	0.01	<10	2.01	470	0.07	<10	<2	9	46	0.21	<10	<10	109	<10	5	4	RC	Pyroxenite w/ po (1-2%) & minor cp (<1%)
81	1411	<10	<.01	<10	2.95	165	<.01	<10	<2	3	1	0.01	<10	<10	50	<10	5	10	OC	Pyroxenite w/ dissem cp (~1%)
81	1457	<10	0.05	<10	0.09	75	0.01	70	<2	<1	3	0.01	<10	<10	8	<10	<5	<2	RC	Qz vein w/ ribbons & sulf along ribbons
82	1409	<10	<.01	<10	12.3	580	<.01	<10	<2	16	1	<.01	<10	<10	134	<10	55	68	FL	Pyroxenite w/ po & cp ~1%
82	1456	10	<.01	<10	2.1	465	0.12	<10	<2	11	59	0.25	<10	<10	106	<10	<30	<12	RC	Pyroxenite w/ cp and py
83	1419	<10	0.14	<10	0.52	435	<.01	80	<2	3	27	0.03	<10	<10	40	<10			FL	Fest qz w/ limonite in gs
84	1468	40	0.01	<10	0.71	440	<.01	240	2	6	14	0.09	<10	<10	71	<10			OC	Sil band in tonalite w/ cp & ml stain
85	1422	<10	0.24	<10	0.77	280	0.08	500	<2	9	50	0.33	<10	<10	96	<10			RC	Alt gs inclusion in tonalite; cp <1%
86	1531	29	0.77	<10	1.46	485	<.01	730	<2	7	8	0.15	<10	<10	109	<10				River 20' wide where sampled
87	1440	43	0.42	<10	1.39	620	<.01	640	<2	7	11	0.15	<10	<10	111	<10				Pl & gw float
88	1439	<10	0.72	<10	1.53	550	0.01	760	<2	9	14	0.16	<10	<10	124	<10				Pl & sc in area
89	1438	21	0.73	<10	1.48	680	<.01	820	<2	8	11	0.18	<10	<10	116	<10				Pl outcrops in area
89	1478	35	0.7	<10	1.34	675	<.01	960	<2	7	13	0.15	<10	<10	103	<10				Fest phyllite outcrops in area
90	1477	10	0.69	<10	1.27	440	<.01	750	<2	6	10	0.13	<10	<10	95	<10				Phyllite outcrops in area
91	1437	23	0.62	<10	1.57	715	0.01	730	<2	7	26	0.17	<10	<10	115	<10				Pl & gw float
92	1442	10	0.57	<10	1.45	630	<.01	640	<2	7	14	0.16	<10	<10	104	<10				Mostly pl w/ gw, minor gs
92	1443	16	0.41	<10	1.59	695	<.01	650	2	6	14	0.17	<10	<10	100	<10				Pl, gw & gs
93	1480	11	0.36	<10	1.56	780	<.01	570	<2	6	14	0.19	<10	<10	93	<10				Phyllite and gs in float
93	1481	16	0.5	<10	1.55	850	<.01	570	<2	7	17	0.22	<10	<10	107	<10				Phyllite, gs, and gw in float
94	1476	10	0.03	<10	0.11	55	0.01	200	<2	<1	5	0.01	<10	<10	6	<10			OC	Qz vein
95	1430	10	1.36	<10	1.58	825	0.06	580	<2	25	23	0.15	<10	<10	212	<10			FL	Qz-mica sc to semi-sc w/ minor sulf
95	1431	10	0.96	<10	1.3	845	0.12	540	<2	22	51	0.13	<10	<10	187	<10			FL	Gs & gs-sc w/ minor sulf (po ~1%)
95	1432	<10	0.18	<10	1.82	910	0.02	740	<2	11	11	0.08	<10	<10	98	<10			FL	Sil sc w/ minor sulf; po <1%
96	1429	10	0.25	<10	0.82	450	<.01	1000	<2	3	13	0.07	<10	<10	55	<10			OC	Iron seep clay
97	1441	11	0.4	<10	1.8	740	<.01	580	<2	8	13	0.18	<10	<10	109	<10				Pl w/ interbedded gw and gs in area
97	1479	35	0.53	<10	1.27	500	<.01	870	<2	6	11	0.12	<10	<10	97	<10				Fest phyllite outcrops in area
99	1426	<10	0.53	<10	2.11	280	<.01	330	<2	9	4	0.29	<10	<10	168	<10			RC	Metased w/ cp (5-10%)
99	1423	10	0.29	<10	2.58	310	<.01	270	<2	14	4	0.23	<10	<10	224	<10			OC	Felsic sc w/ dissem py & cp (1-2%)
99	1424	<10	0.71	<10	2.82	370	<.01	350	<2	13	3	0.17	<10	<10	231	<10			OC	Sericite sc w/ cp (<1%) and chalcocite (?)
99	1425	10	<.01	<10	0.18	125	<.01	20	<2	1	<1	<.01	<10	<10	12	<10			OC	Qz stringers in gs
100	1434	<10	0.02	<10	0.02	45	<.01	<10	<2	<1	<1	<.01	<10	<10	1	<10			OC	Qz veins in gw; <1% sulf
100	1444	<10	1.3	<10	3.47	420	0.01	480	<2	10	5	0.18	<10	<10	216	<10			OC	Gs w/ dissem cp (1-2%)
100	1445	<10	0.49	<10	0.99	600	0.1	540	<2	5	51	0.1	<10	<10	95	<10			OC	Fest gs w/ 1-2% cp

Table B-1. Analytical results from mine, prospect, occurrence, and reconnaissance samples

Map No.	Sam. No.	Location	Sam. Type	Sample Size (ft)	Au ppb	Ag ppm	Cu ppm	* %	Pb ppm	Zn ppm	Mo ppm	Ni ppm	Co ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Cr ppm	Fe %	Ga ppm
100	1446	Mt. Muravief	S		90	<.2	3000		<1	160	<1	28	28	2.96	8	70	<.5	<2	1.38	<.5	151	4.86	<10
100	1447	Mt. Muravief	S		<5	0.5	4000		<1	890	17	22	44	3.71	18	40	<.5	<2	0.23	5	299	11.5	10
101	1433	Mt. Muravief	G		600	<.2	73		<1	107	1	29	15	2.72	<2	290	<.5	<2	0.21	<.5	114	4.3	<10
101	1435	Mt. Muravief	S		<5	0.5	1070		4	171	22	328	71	2.73	1125	40	<.5	<2	1.69	<.5	98	14.1	<10
101	1436	Mt. Muravief	G		320	0.3	1000		1	123	31	238	49	1.98	1685	40	<.5	<2	1.43	<.5	59	10.4	<10
102	1420	Mt. Muravief area	G		<5	<.2	106		<1	124	1	65	31	2.96	<2	160	<.5	<2	0.23	<.5	211	5.76	10
102	1427	Mt. Muravief	SC	18 @ .5	<5	3.6	**1.63**	*	14	560	9	32	106	3.06	<2	50	<.5	<2	0.29	3	274	8.09	10
102	1428	Mt. Muravief	S		80	4.1	5100		72	40	272	9	38	0.59	6	10	<.5	12	0.01	<.5	178	8.94	<10
102	1470	Mt. Muravief	C	0.3	65	12	**2.79**	*	24	700	35	12	27	2.38	<2	40	<.5	<2	0.28	3	132	14	<10
102	1471	Mt. Muravief	C	2.7	50	9.5	**2.88**	*	90	1300	22	105	505	0.08	<2	<10	<.5	<2	<.01	5	7	>15.00	<10
102	1472	Mt. Muravief	Rep	2.5	80	11.5	**3.19**	*	170	1400	26	90	467	0.09	<2	<10	<.5	<2	0.01	3.5	9	>15.00	<10
102	1473	Mt. Muravief	S	0.4	100	20	**6.33**	*	56	1900	30	79	420	0.3	<2	<10	<.5	<2	0.05	7.5	24	>15.00	<10
102	1474	Mt. Muravief	Rep	0.2	10	14.5	**4.79**	*	12	2200	18	80	328	1.31	24	10	<.5	Intf*	0.44	11	69	>15.00	<10
102	1475	Mt. Muravief	C	0.4	<5	1.2	3450		9	115	2	13	30	3.23	<2	70	<.5	<2	0.5	<.5	269	10.4	10
104	1421	Mt. Muravief area	S		<5	<.2	630		<1	46	<1	33	17	2.09	<2	100	<.5	<2	1.56	<.5	165	2.92	<10
104	1467	Mt. Muravief area	G	0.3	<5	<.2	45		<2	72	3	22	11	1.71	<2	90	<.5	<2	3.18	<.5	78	2.85	<10
105	1492	Mt. Muravief area	SS		<5	<.2	84		8	126	1	29	21	2.81	26	150	<.5	<2	0.17	<.5	49	5.91	<10
106	1482	Mt. Muravief area	SS		<5	<.2	72		4	124	1	38	23	2.83	34	160	<.5	<2	0.24	<.5	55	5.45	10
107	1493	Mt. Muravief area	SS		<5	<.2	92		8	146	1	42	28	2.68	28	120	<.5	<2	0.22	<.5	46	5.99	<10
107	1494	Mt. Muravief area	SS		<5	<.2	86		6	130	1	29	22	2.76	20	160	<.5	<2	0.18	<.5	48	6.02	<10
108	1483	Mt. Muravief area	SS		<5	<.2	67		4	126	1	34	18	2.93	28	150	<.5	<2	0.19	<.5	53	5.87	10
109	1484	Mt. Muravief area	SS		<5	<.2	55		4	110	1	23	17	2.72	14	140	<.5	<2	0.18	<.5	50	5.91	<10
110	1495	Mt. Muravief area	SS		<5	0.2	102		10	146	1	38	27	2.76	50	110	<.5	<2	0.2	<.5	46	6.96	<10
111	1485	Mt. Muravief area	SS		<5	<.2	47		2	108	<1	21	17	2.4	12	160	<.5	<2	0.17	<.5	45	5.2	<10
112	1486	Mt. Muravief area	SS		<5	<.2	76		8	110	2	29	20	2.58	22	180	<.5	<2	0.24	<.5	48	5.8	<10
112	1487	Mt. Muravief area	SS		<5	0.2	80		14	130	1	31	25	2.46	28	140	<.5	<2	0.22	<.5	45	6.01	<10
112	1496	Mt. Muravief area	G		<5	<.2	55		<1	100	<1	27	14	2.68	<2	310	<.5	<2	0.28	<.5	120	4.25	<10
113	1488	Mt. Muravief area	SS		<5	0.2	97		12	156	2	44	29	3.01	30	110	<.5	<2	0.11	0.5	44	7.85	<10
114	1489	Mt. Muravief area	SS		<5	<.2	95		14	170	1	55	45	2.63	42	70	<.5	<2	0.3	0.5	38	5.83	<10
115	1498	Mt. Muravief area	SS		<5	<.2	83		12	146	1	46	32	2.3	42	30	<.5	<2	0.17	<.5	31	5.71	<10
116	1499	Mt. Muravief area	SS		<5	<.2	78		10	154	1	45	32	2.48	44	50	<.5	<2	0.18	<.5	36	5.51	<10
117	1497	Mt. Muravief area	SS		<5	<.2	60		14	106	1	25	17	3.03	32	90	<.5	<2	0.1	<.5	44	5.92	<10
118	1490	Mt. Muravief area	SS		<5	<.2	47		6	106	1	26	17	2.52	14	160	<.5	<2	0.16	<.5	47	4.95	<10
119	1491	Mt. Muravief area	SS		<5	<.2	68		6	140	1	38	22	3.06	22	180	<.5	<2	0.15	<.5	50	5.48	10
119	1530	Mt. Muravief area	G		<5	<.2	18		<1	56	1	5	4	1.53	2	200	<.5	<2	0.13	<.5	141	2.11	<10
120	1511	Mt. Muravief area	G		<5	<.2	145		<1	132	<1	33	24	3.28	26	40	<.5	<2	0.56	<.5	187	8.38	<10
120	1512	Mt. Muravief area	G		<5	1	1300		<1	144	<1	109	28	2.49	72	120	<.5	<2	0.58	<.5	143	10.55	<10
121	1510	Mt. Muravief area	SS		<5	<.2	83		10	134	1	40	29	2.89	30	150	<.5	<2	0.2	<.5	47	5.27	<10

Table B-1. Analytical results from mine, prospect, occurrence, and reconnaissance samples

Map No. ppm	Sam. No. ppm	Hg ppb	K %	La ppm	Mg %	Mn ppm	Na %	P ppm	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Pt ppb	Pd ppb	Sam. Site	Sample Description
100	1446	<10	0.47	<10	1.9	355	0.09	790	2	10	22	0.14	<10	<10	120	<10			OC	Gs w/ seams of cp (2%); copper staining
100	1447	<10	1.42	<10	1.72	275	0.08	360	<2	25	12	0.2	<10	<10	245	<10			OC	Alt gs w/ cp, chalcocite (?); cp to 3%
101	1433	<10	1.02	<10	1.48	725	0.02	840	2	8	11	0.13	<10	<10	110	<10			OC	Graphitic pl w/ gw clasts, minor py + po
101	1435	10	0.34	10	1.22	1425	0.02	5530	2	5	36	0.06	<10	<10	272	<10			OC	Gs w/ minor sulf; po 3%
101	1436	<10	0.39	10	0.92	3910	0.01	5390	<2	3	48	0.06	<10	<10	188	<10			OC	Sil gs w/ 10-15% sulf, mainly po
102	1420	<10	1.18	<10	1.88	675	<.01	970	<2	21	5	0.13	<10	<10	160	<10			FL	Sc & gw w/ minor sulf
102	1427	10	0.88	<10	2.48	735	0.05	500	<2	26	19	0.18	<10	<10	201	<10			OC	Felsic sc w/ chalcocite, bornite, cp
102	1428	<10	0.15	<10	0.52	205	<.01	420	<2	3	3	0.01	<10	<10	104	<10			OC	Chalcocite seam in fel sc
102	1470	<10	1.05	<10	1.37	470	0.04	510	<2	11	17	0.13	<10	<10	128	<10			OC	Msv sulf, 50% gossan, w/ po, cp, chalcocite
102	1471	<10	0.01	<10	0.01	45	<.01	<10	<2	<1	<1	<.01	<10	10	8	<10			OC	Msv chalcocite, po, & cp
102	1472	10	0.01	<10	0.03	150	<.01	<10	<2	<1	<1	<.01	<10	10	12	<10			OC	Msv po & cp
102	1473	10	0.04	<10	0.05	110	<.01	<10	<2	2	1	<.01	<10	10	35	<10			OC	Msv cp, po, & chalcocite
102	1474	10	0.56	<10	0.57	380	0.1	Intf*	<2	7	23	0.06	<10	<10	68	<10			OC	Msv sulf, po, py, cp, & sl
102	1475	<10	1.1	<10	2.2	635	0.18	330	<2	29	34	0.14	<10	<10	172	<10			OC	Qz ser sc w/ 20% sulf; po, py, cp
104	1421	<10	0.2	<10	0.77	265	0.07	480	<2	8	44	0.32	<10	<10	92	<10			FL	Metased w/ minor sulf, cp <1%
104	1467	<10	0.33	<10	1.08	825	<.01	840	<2	6	135	0.06	<10	<10	80	<10			FL	Fest qz vein w/ gw wallrock, sparse po
105	1492	25	0.52	<10	1.43	590	<.01	960	4	5	13	0.12	<10	<10	92	<10				Pl, gw, minor qz
106	1482	10	0.57	<10	1.4	650	0.01	960	<2	5	20	0.1	<10	<10	89	<10				Gs sc, phyllite & gs
107	1493	10	0.42	<10	1.39	650	<.01	1100	<2	5	16	0.1	<10	<10	84	<10				Mainly pl or slate
107	1494	32	0.57	<10	1.46	605	<.01	960	<2	5	11	0.13	<10	<10	94	<10				Mainly pl-slate, some gw
108	1483	<10	0.63	<10	1.53	615	<.01	1050	<2	5	13	0.1	<10	<10	88	<10				Phyllite and gs float
109	1484	11	0.55	<10	1.49	605	<.01	990	2	4	11	0.1	<10	<10	84	<10				Phyllite and gw outcrops
110	1495	14	0.41	<10	1.36	650	<.01	1170	2	4	20	0.1	<10	<10	83	<10				Interlayered pl and gw
111	1485	10	0.57	<10	1.39	525	<.01	870	<2	4	9	0.1	<10	<10	78	<10				Gw and phyllite
112	1486	35	0.64	<10	1.34	565	<.01	1050	<2	4	19	0.11	<10	<10	83	<10				Phyllite and gw outcrops
112	1487	10	0.47	<10	1.34	645	<.01	980	4	4	10	0.1	<10	<10	82	<10				Gw and phyllite
112	1496	10	1.16	<10	1.52	470	0.02	1230	<2	6	15	0.15	<10	<10	92	<10			RC	Pl w/ dissem & seams of po & py, 1-2%
113	1488	41	0.34	<10	1.18	895	<.01	1420	<2	3	7	0.1	<10	<10	79	<10				Fest phyllite and gw outcrops
114	1489	23	0.17	<10	1.18	1145	<.01	1100	4	4	14	0.07	<10	<10	71	<10				Phyllite and gw outcrops
115	1498	36	0.07	<10	1.21	940	<.01	1090	<2	2	7	0.05	<10	<10	47	<10				Interbedded pl & gw
116	1499	32	0.14	<10	1.27	870	<.01	1050	4	3	8	0.07	<10	<10	57	<10				Pl w/ interbedded gw
117	1497	32	0.31	<10	1.25	600	<.01	1090	<2	4	7	0.11	<10	<10	83	<10				Mainly pl w/ interbedded gw
118	1490	11	0.53	<10	1.35	590	<.01	950	<2	5	9	0.1	<10	<10	86	<10				Gw and phyllite outcrops
119	1491	49	0.62	<10	1.41	520	<.01	1100	<2	5	20	0.12	<10	<10	92	<10				Phyllite, gs, and gw in float
119	1530	20	0.61	<10	0.91	260	0.04	480	<2	7	16	0.1	<10	<10	71	<10			FL	Sil fest gs w/ sparse po & trace cp
120	1511	<10	0.24	<10	1.66	635	0.01	1480	2	12	21	0.14	<10	<10	150	<10			OC	Fest gs
120	1512	<10	0.22	<10	1.18	2270	<.01	2320	2	10	20	0.06	<10	<10	323	<10			OC	Fest, alt, sil gs w/ minor cp (<1%)
121	1510	14	0.44	<10	1.41	705	<.01	1020	<2	5	15	0.12	<10	<10	95	<10				Pl w/ interbedded gw

Table B-2. Analytical results from carbonate samples

Map No.	Sam. No.	Location	Sam. Type	Sample Size (ft)	Al_2O_3	CaO	Cr_2O_3	Fe_2O	K_2O	MgO	MnO	Na_2O	P_2O_5	SiO_2	TiO_2	LOI	aCO	OTA	Sam. Site	Sample Description
3	LS9	Westport			0.75	46.1	0.02	0.66	0.14	4.76	0.02	0.06	0.01	5.27	0.03	41.4	82.25	99.43	OC	
4	LS8	Westport			0.59	50.1	<.01	0.39	0.12	2.19	0.02	0.03	0.01	4.23	0.03	41.7	89.45	99.47	OC	
5	LS7	Westport			0.31	51.9	0.01	0.42	0.07	2.32	0.03	0.03	0.01	1.05	0.03	43.5	92.71	99.42	OC	
6	LS5	Westport	SC	150 @ 1	0.58	51.9	<.01	0.45	0.13	1.45	0.01	0.03	0.05	2.55	0.03	42.1	92.68	99.10	OC	Dark gray, fg, bedded
7	LS4	Westport	SC	150 @ 1	0.71	51.5	<.01	0.37	0.14	1.79	<.01	0.01	0.08	2.48	0.03	42.3	91.96	99.70	OC	Dark gray, fg, fossiliferous
43	LS3	Seal Creek			0.18	49	<.01	0.12	0.06	5.18	<.01	<.01	<.01	1.85	0.01	43	87.45	99.29	OC	Gray-white banded, some sulf

Table B-3. Analytical results from REE samples

Map No.	Sam. No.	Location	Sam. Type	Sample Size (ft)	La	Ce	Nd	Sm	Eu	Tb	Yb	Lu	Th	U	Sam. Site	Sample Description
19	1388	Salt Lake Bay	S		22	43	15	2.9	<.5	<.5	2.6	0.4	22	7	TP	K-spar pegmatite dike w/ py seams (1%)
23	1386	Salt Lake Bay	S	0.5	10	18	<5	0.7	0.4	<.5	0.5	0.1	15	6	TP	Hem in clay gouge in sheared gd
51	1233	Trap Bay	Rep		13	25	9	1.5	0.2	<.5	2.1	0.4	31	15	OC	Minor py, trace cp, in aplite dike in hn
54	1224	Kadashan Bay	Rep		55	94	29	4.7	0.6	0.8	5.4	0.8	41	22	TP	Syenite w/ little to no qz; minor py
54	1373	Kadashan Bay	Rep	2	42	76	25	4.3	<.5	0.7	4.8	0.8	30	18	TP	Alt syenite along shear
55	1225	Corner Creek	Rep	1	49	88	31	5.3	1	0.9	3.6	0.5	25	11	TP	Alt syenite inclusion in di; py to 2%
56	1377	Corner Creek	Rep		19	38	16	3.6	0.8	<.5	1.6	0.3	3.8	3	TP	Highly fractured syenite
57	1378	Kook Lake	SS		67	125	46	7	1.6	0.8	3	0.5	10.1	8		Syenite, metavolc, & ls float
58	1379	Kook Lake	SS		44	87	37	6.2	1.5	0.6	2.7	0.4	7.8	9		Volc and syenite float
59	1228	Kook Lake	SS		49	93	37	5.8	1.3	0.5	3.8	0.6	10.4	13		Gd, syenite & mafic dike rock as float
60	1226	Kook Lake	Rep		31	69	31	5	1	0.6	1.7	0.3	4.1	3	TP	Py & cp in clots to 5% in syenite
61	1227	Kook Lake	SS		65	119	40	6.3	1.2	0.9	6.4	1.1	13.9	19		Gd, syenite, & volc as float
62	1211	Sitkoh Bay	Rep		14	30	18	4.5	1.1	0.9	3	0.5	1.1	<1	OC	Cg bt-hnbd tonalite w/ finely dissem py
65	1363	Sitkoh Bay	Rep		11	22	8	1.3	<.5	<.5	0.5	<.1	5.5	3	OC	Felsic dike in hn & tonalite
66	1362	Sitkoh Bay	SS		40	75	34	5.9	1.4	0.8	2.6	0.4	6.4	8		Area of intrusives w/ minor marble
67	1217	Sitkoh Bay	S		20	40	18	3.2	1.2	0.5	1.6	0.2	3.6	3	RC	Clots of py/po in trondhjemite
70	1215	Sitkoh Bay	Rep	2	21	37	18	2.6	1.2	<.5	1.2	0.2	3.6	2	OC	Syenite w/ thin black silicate veinlets
70	1359	Sitkoh Bay	Rep	2.6	13	30	18	4	1.3	0.6	1.9	0.3	2	2	OC	Diabase dike in alkalic intrusive; po <1%
71	1214	Sitkoh Bay	Rep		33	59	21	3.3	1.4	0.5	2.1	0.3	7.6	5	OC	K-spar-rich syenite
71	1358	Sitkoh Bay	S		32	55	15	2.9	1.4	<.5	1.8	0.3	9.1	14	RC	Alkalic intrusive w/ py ~1%
72	1213	Sitkoh Bay	S	0.1	22	51	28	6	1.7	0.7	1.6	0.3	2.7	<1	OC	Alt tonalite in shear w/ py/po to 10%

Table B-4. Detection limits by analytical technique.

Fire assay - atomic absorption spectrophotometry finish

Element	Minimum, ppm	Maximum, ppm
Au	0.005	10

Fire assay - inductively coupled argon plasma (ICP) spectroscopy finish

Element	Minimum, ppm	Maximum, ppm
Au, Pd	0.002	10
Pt	0.005	10

Atomic absorption spectrophotometry (AA)

Element	Minimum, ppm	Maximum, ppm
Ag	0.2	100
Cu	1	10,000
Pb	1	10,000
Zn	1	10,000
Mo	1	1,000
Co	1	10,000
Ni	1	10,000
Hg	0.01	100
Cu, ore-grade	0.01%	100%

Inductively coupled argon plasma (ICP) spectroscopy

Element	Min. ppm	Max. ppm	Element	Min. ppm	Max. ppm
Ag	0.2	200	Ga	10	10,000
Cu	1	10,000	K	100	100,000
Pb	2	10,000	La	10	10,000
Zn	2	10,000	Mg	100	150,000
Mo	1	10,000	Mn	5	10,000
Ni	1	10,000	Na	100	50,000
Co	1	10,000	P	10	10,000
Al	100	150,000	Sb	2	10,000
As	2	10,000	Sc	1	10,000
Ba	10	10,000	Sr	1	10,000
Be	0.5	100	Ti	100	50,000
Bi	2	10,000	Tl	10	10,000
Ca	100	150,000	U	10	10,000
Cd	0.5	100	V	1	10,000
Cr	1	10,000	W	10	10,000
Fe	100	150,000			

Detection Limits - Neutron activation analysis

Element	Min. ppm	Max. ppm
La	1	10,000
Ce	2	10,000
Nd	5	1,000
Sm	0.1	500
Eu	0.5	100
Tb	0.5	100
Yb	0.5	1,000
Lu	0.1	500
Th	0.5	10,000
U	1	10,000

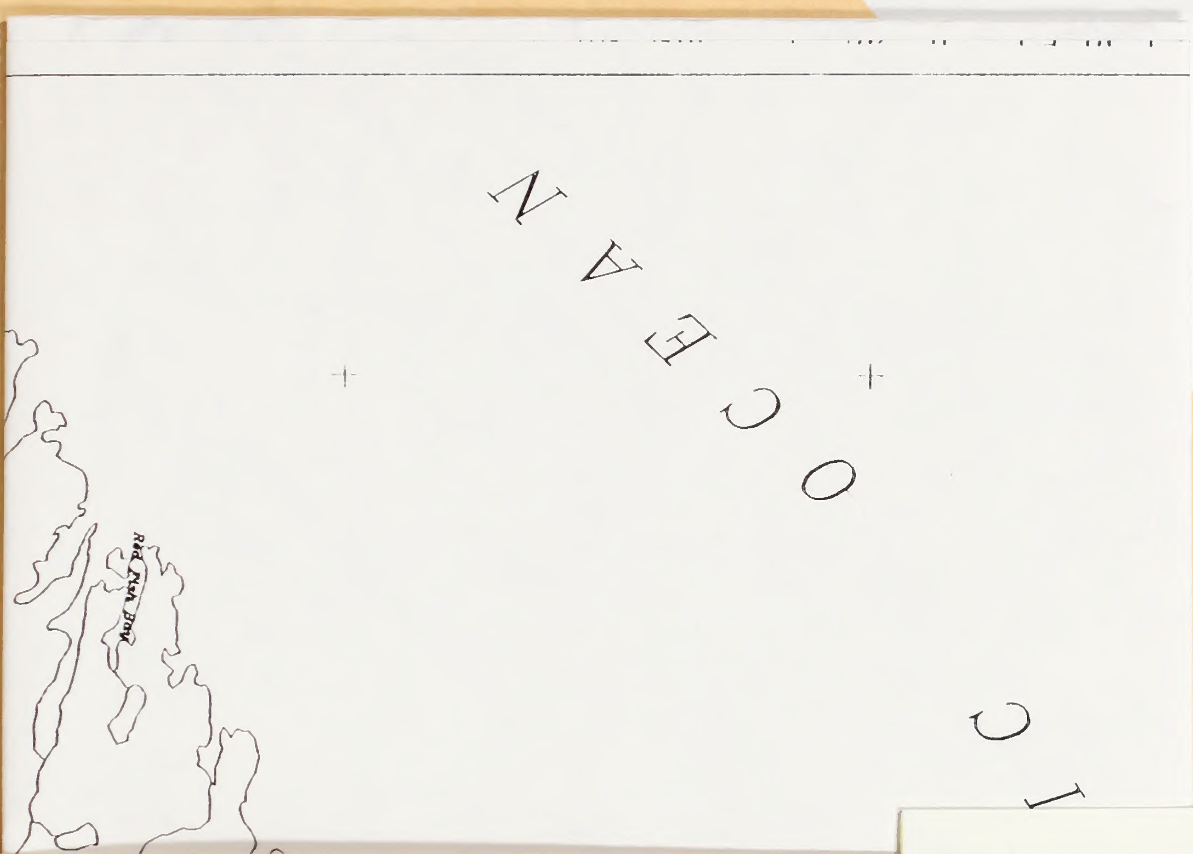
Detection Limits

X-ray fluorescence spectroscopy (XRF)

Element	Min. %	Max. %
Al_2O_3	0.01	100
CaO	0.01	100
Cr_2O_3	0.01	100
Fe_2O_3	0.01	100
MgO	0.01	100
MnO	0.01	100
Na_2O	0.01	100
P_2O_5	0.01	100
SiO_2	0.01	100
TiO_2	0.01	100
LOI	0.01	100

Titration

CaO	0.01	100


Red Fish Bay

Detection Limits - Neutron activation analysis

Element	Min. ppm	Max. ppm
La	1	10,000
Ce	2	10,000
Nd	5	1,000
Sm	0.1	500
Eu	0.5	100
Tb	0.5	100
Yb	0.5	1,000
Lu	0.1	500
Th	0.5	10,000
U	1	10,000

Detection Limits

X-ray fluorescence spectroscopy (XRF)

Element	Min. %	Max. %
Al_2O_3	0.01	100
CaO	0.01	100
Cr_2O_3	0.01	100
Fe_2O_3	0.01	100
MgO	0.01	100
MnO	0.01	100
Na_2O	0.01	100
P_2O_5	0.01	100
SiO_2	0.01	100
TiO_2	0.01	100
LOI	0.01	100

Titration

CaO	0.01	100

Figure 2. - Sample locality map.

Detection Limits - Neutron activation analy

Element	Min. pp	Max. p
La	1	
Ce	2	
Nd	5	
Sm	0.1	
Eu	0.5	
Tb	0.5	
Yb	0.5	
Lu	0.1	
Th	0.5	
U	1	

Detection

X-ra